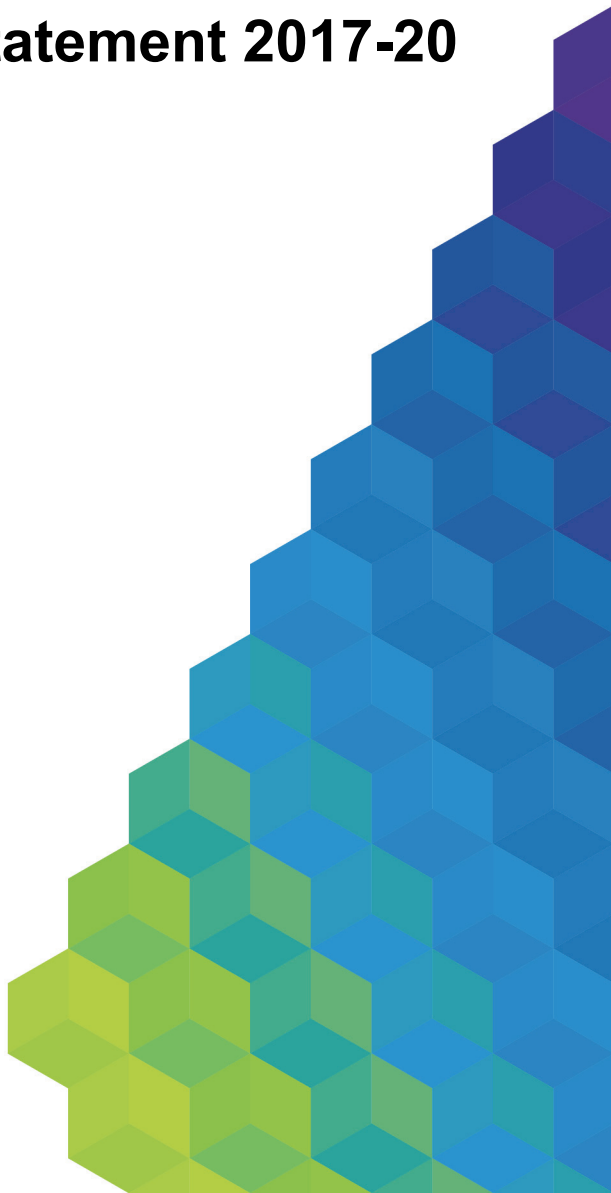
AusNet Electricity Services Pty Ltd

Addendum to Approved Tariff Structure Statement 2017-20

Submitted: 7 September 2017



About AusNet Services

AusNet Services is a major energy network business that owns and operates key regulated electricity transmission and electricity and gas distribution assets located in Victoria, Australia. These assets include:

- A 6,574 kilometre electricity transmission network that services all electricity consumers across Victoria;
- An electricity distribution network delivering electricity to approximately 680,000 customer connection points in an area of more than 80,000 square kilometres of eastern Victoria; and
- A gas distribution network delivering gas to approximately 572,000 customer supply points in an area of more than 60,000 square kilometres in central and western Victoria.

AusNet Services' purpose is 'to provide our customers with superior network and energy solutions.'

For more information visit: www.ausnetservices.com.au.

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1 Purpose of the addendum

AusNet Services' Tariff Structure Statement for the period 2016 – 2020 was approved by the AER on 24 August 2016, and on 7 November 2016 approved an amendment to rectify a mis-description of certain tariff classes and consumption thresholds (the 2016 TSS).

An amendment to the 2016 TSS is now necessary to comply with new Victorian government policy which is to be given effect via orders in council expected to be gazetted in mid-September 2017. The new policy requires that medium business customers, i.e. customers consuming between 40MWh and 160MWh per year[1], have the option to opt-out of the network tariff with a demand charge to which they have been assigned. The opt-out arrangement is to apply from 1 January 2018.

There are approximately 8,500 customers in the applicable category (less than 1% of AusNet Services' customers). The 2016 TSS provides for all customers in this customer class to be transitioned to demand based cost-reflective tariffs.

This addendum sets out the network tariff arrangements to apply for AusNet Services customers who request their retailer to invoke the opt-out option. No other customer classes are impacted, and the changes required to the TSS are accordingly contained and minimal.

This addendum includes the 2016 TSS as an appendix.

2 Process for amendment

Section 6.18.1B of the National Electricity Rules (NER) includes provisions for amendment to a TSS. The NER requirements, and the manner in which these are addressed in this instance, are set out in Table 1.

Table 1: Consistency with NER Requirements for TSS Amendment

Rule	Requirement[2]	Manner in which requirement is addressed
6.18.1B (a)	A Distribution Network Service Provider (DNSP) may request an amendment to its TSS, up to 9 months prior to the date it takes effect	The opt-out requirement is to take effect from January 2018. To provide for amendment to the TSS the government has modified the NER to require Victorian DNSPs to request the amendment, by not later than 30 September 2017. The NER (as modified by the Advanced Metering Infrastructure (AMI Tariffs) Order in Council (**AMI Tariffs OIC**) also allows the DNSP to request the TSS amendment at the same time it submits its Pricing Proposal for 2018.
6.18.1B (b)(1)	A request for an amendment to a tariff structure statement must include the proposed amended TSS	The proposed amended TSS is contained in this addendum. The specific amendment is set out in section 3.

[1] The Advanced Metering Infrastructure (AMI Tariffs) Amendment Order 2017 defines a "medium customer". These are customers consuming less than 160MWh per year who are not a small customer. For the purposes of the Addendum the applicable lower bound for this category of customer is 40MWh, consistent with the 2016 TSS. Accordingly the 2016 TSS term for this customer category, medium business customer, is used throughout this document.

[2] The rules provisions are paraphrased in the table

Rule	Requirement[2]	Manner in which requirement is addressed
6.18.1B (b)(2)	The request for amendment must explain why the matter was not able to be addressed at the time of submitting the 2016 TSS	The Victorian government has modified the NER to state that in this instance it is not necessary to comply with this paragraph
6.18.1B (3)	The request for amendment must provide description and justification of the differences.	Per section 1 of this document, the changes are contained and minimal. The amendment, set out in Section 3, identifies: • which network tariffs will be accompanied by an opt-out option for the customer • the network tariffs available for reversion, and reasoning
6.18.1B (4)	The request for amendment must describe the impact on other elements of the TSS	The amendment is contained to the category of customers identified as medium business customers. No impact for network tariffs arises for other customer classes due to the opt-out requirement. However, the table of indicative tariff rates has been updated in the main body of this addendum so that the basis of the indicative rates presented is current.
6.18.1B (5)	The request for amendment must describe how the proposed amendment would better comply with the NER pricing principles	The amendment is necessary to comply with a new jurisdictional requirement. By its terms, the AMI Tariffs OIC requires the AER to approve the request for amendment if it complies with the OIC, regardless of the extent of its compliance with the pricing principles. Nevertheless, as set out in Section 3, the proposed tariff structure used for reversion and implementation approach are consistent with the pricing principles for introduction of cost reflective pricing.
6.18.1B (6)	The request for amendment must describe how customer engagement is incorporated	Due to the short timeframe available there is no opportunity for customer engagement. The AMI Tariffs OIC modifies the NER such that it is not necessary to comply with this paragraph in this instance.

3 Details of the amendment

3.1 Affected tariffs

In accordance with the 2016 TSS all medium business customers have been reassigned to a demand based cost reflective tariff, commencing 1 January 2017. These are new tariffs, introduced in conjunction with the establishment of new pricing principles in the NER.

In accordance with the 2016 TSS AusNet Services has set a zero demand component for 2017, and the transition plan provides for increments of 20% of the full demand component to be introduced annually from 2018. The tariff structure is presented in Figure 3.1 of the 2016 TSS, in Section 5.3 – Proposed Network Tariff Structures.

The affected tariffs are NASN12, NASN19 and NASN21, and derivatives necessary to account for solar generation feed-in adjustment. Each of these tariffs has a time of use (TOU) seasonal demand structure. The tariff structure and indicative tariff levels are presented in Table 3 of the 2016 TSS, on page 66.

NASN12 differs from the other tariffs in that the tariff is available for customers to opt into, and accordingly does not have a phased introduction of the demand component. The full demand

component applies for this tariff in 2018. The tariff is also applied as the default tariff for new customers.

Table 3 of the 2016 TSS is updated in this addendum, and the update reflects that customers have the option of opting-out of the tariff commencing January 2018.

3.2 Tariff available for medium business customer reversion

The Advanced Metering Infrastructure (AMI Tariffs) Amendment Order 2017 (the Order) requires DNSPs to make available for medium business customers at least one network tariff with a zero demand usage charge or demand charging parameter. The order also establishes that such tariff is to be assigned to the customer on an opt-out basis, at the request of the customer.

Where a medium business customer has requested to opt out of the default demand-based tariff, the retailer will be able to revert that customer to a network tariff that AusNet Services designates for this purpose. The tariff we will use for reversion is an existing tariff, NSP27. The tariff structure is made up of energy components and a fixed charge only, and accordingly satisfies the requirements of the order.

The NSP27 tariff structure has cost-reflective characteristics. It is a seasonal energy TOU tariff, providing capability of price signalling aligned to periods when the network utilisation is highest and the network most at risk of becoming constrained. This tariff structure is already available to small customers on an opt-in basis, as an alternative cost-reflective tariff to the opt-in demand based tariff.

NSP27 had been maintained due to its cost reflective structural characteristics. However, since customers were not being assigned to it, the tariff was not included in the 2016 TSS tariff tables.

The initial cost-reflectivity of the NSP27 components is low, similar to the initial years in the introduction of the demand-based tariffs. AusNet Services' intention is for the peak period cost-reflectivity to be transitioned incrementally, in the same way as proposed for the demand-based tariff.

The structure and indicative 2018 tariff levels for the main medium business customer tariffs are presented in Table 2, below. This table updates Table 3 of the 2016 TSS.

It is noted that previously the table showed new customers being assigned to NASN12. However, to better align with the new opt-out requirement new customers will be assigned to NASN19. This will reduce the tendency for new customers to revert from the demand-based tariff.

Table 2: structure and indicative 2018 NUOS tariff levels for main medium business customer tariffs

Medium Business Customer				Tariff components						
Tariff	Description	Assignment	Note	Peak Demand		Energy				Fixed Fee
				($/kW/month)		(c/kWh)				($/year)
				Peak	Off peak	Anytime	Peak	Shoulder	Off peak	
NASN12	TOU seasonal demand	opt-in 2018	4,5	8.91	2.23	14.98				109
NASN19	TOU seasonal demand, single rate	Re-assign, opt-out	5,6,8	1.78	0.45	16.48				109
NASN21	TOU seasonal demand, two rate	Re-assign, opt-out	5,6,7	1.78	0.45		16.47		4.2	109
NSP27	TOU seasonal energy	Opt-out reversion	9				Summer 20.75 / Winter 16.42	18.45	7.27	109

Notes:

4	Tariff first available 2018
5	Maximum Demand applies 3-9pm ADST, Mon-Fri, excludes public holidays, Peak Season applies Dec-Mar, Off-peak all other months
6	Peak Demand component phased in, 0% of full value 2017, 20% 2018, 40% 2019, 60% 2020. Rebalanced via annual energy rate reduction.
7	Closed to new customers. Existing customers assigned according to alignment with their current network tariff structure assignment
8	New customers will be assigned to this tariff
9	Summer peak Dec-Mar, Mon – Fri, 2:00pm-6:00pm; Summer Shoulder Dec-Mar, Mon – Fri, 12:00noon to 2:00pm and 6:00pm to 8:00pm; Winter Peak Jun-Aug, Mon – Fri, 4:00pm to 8:00pm; Off Peak – All other times. All times referenced are AEST

The table below shows the indicative tariff rates for Network Use of System (NUOS) tariffs. This table updates Table 4 in the 2016 TSS.

Table 3: indicative tariff rates for Network Use of System (NUOS) tariffs

Tariff	Charging Parameter	Approved 2017 tariffs	2018	2019	2020
NEE11	Fixed ($)	107.00	109.07	114.45	120.00
	Energy Block 1($/kWh)	0.0996	0.0981	0.1013	0.1042
	Energy Block 2 ($/kWh)	0.1282	0.1230	0.1254	0.1308
NEN11	Fixed ($)	107.00	109.07	114.45	120.00
	Energy Block 1($/kWh)	0.0693	0.0684	0.0708	0.0736
	Energy Block 2 ($/kWh)	0.0738	0.0729	0.0755	0.0786
NASN11	Fixed ($)	-	109.07	114.45	120.00
	Energy - All Time ($/kWh)	-	0.0948	0.0985	0.1028
	Demand peak season ($/kW/mth)	-	8.9090	9.3540	9.8685
	Demand off-peak season ($/kW/mth)	-	2.2323	2.3430	2.4719
NEE12	Fixed ($)	107.00	109.07	114.45	120.00
	Energy Block 1($/kWh)	0.1356	0.1320	0.1372	0.1436
	Energy Block 2 ($/kWh)	0.1742	0.1714	0.1787	0.1874
NASN12	Fixed ($)	-	109.07	114.45	120.00
	Energy - All Time ($/kWh)	-	0.1498	0.1563	0.1638
	Demand peak season ($/kW/mth)	-	8.9090	9.3540	9.8685
	Demand off-peak season ($/kW/mth)	-	2.2323	2.3430	2.4719
NASN19	Fixed ($)	107.00	109.07	114.45	120.00
	Energy - All Time ($/kWh)	0.1713	0.1648	0.1684	0.1729
	Demand peak season ($/kW/mth)	-	1.7822	3.6708	5.6707
	Demand off-peak season ($/kW/mth)	-	0.4456	0.9198	1.4209
NEE20	Fixed ($)	107.00	109.07	114.45	120.00
	Energy - peak ($/kWh)	0.1893	0.1848	0.1807	0.1722
	Energy - off-peak ($/kWh)	0.0400	0.0395	0.0448	0.0599
NEN20	Fixed ($)	107.00	109.07	114.45	120.00
	Energy - peak ($/kWh)	0.1117	0.1101	0.1146	0.1198
	Energy - off-peak ($/kWh)	0.0327	0.0323	0.0448	0.0599

Tariff	Charging Parameter	Approved 2017 tariffs	2018	2019	2020
NSP20	Fixed ($)	107.00	109.07	114.45	120.00
	Energy - summer peak ($/kWh)	0.4102	0.4031	0.4223	0.4444
	Energy - summer shoulder ($/kWh)	0.3615	0.3553	0.3720	0.3914
	Energy - winter peak ($/kWh)	0.3189	0.3135	0.3281	0.3451
	Energy - off peak ($/kWh)	0.0326	0.0321	0.0496	0.0609
NEE21	Fixed ($)	107.00	109.07	114.45	120.00
	Energy - peak ($/kWh)	0.1811	0.1776	0.1842	0.1822
	Energy - off-peak ($/kWh)	0.0422	0.0416	0.0448	0.0599
NEN21	Fixed ($)	107.00	109.07	114.45	120.00
	Energy - peak ($/kWh)	0.1328	0.1307	0.1363	0.1402
	Energy - off-peak ($/kWh)	0.0656	0.0646	0.0539	0.0599
NASN21	Fixed ($)	107.00	109.07	114.45	121.25
	Energy - peak ($/kWh)	0.1737	0.1647	0.1647	0.1566
	Energy - off peak ($/kWh)	0.0422	0.0416	0.0448	0.0599
	Demand peak season ($/kW/mth)	-	1.7822	3.6708	5.6707
	Demand off-peak season ($/kW/mth)	-	0.4456	0.9198	1.4209
NEE23	Fixed ($)	118.00	115.00	119.00	120.00
	Energy - peak ($/kWh)	0.1893	0.1822	0.1817	0.1737
	Energy - off-peak ($/kWh)	0.0400	0.0395	0.0448	0.0599
	Energy - Summer Export ($/kWh)	0.0348	0.0239	0.0104	-
NEE24	Fixed ($)	107.00	109.07	114.45	120.00
	Energy - peak ($/kWh)	0.0838	0.0827	0.0858	0.0894
	Energy - off-peak ($/kWh)	0.0212	0.0209	0.0389	0.0539
NGT26	Fixed ($)	107.00	109.07	114.45	120.00
	Energy - summer peak ($/kWh)	0.1422	0.1353	0.1362	0.1426
	Energy - winter peak ($/kWh)	0.1422	0.1353	0.1362	0.1426
	Energy - shoulder ($/kWh)	0.1097	0.1081	0.1102	0.1151
	Energy - off-peak ($/kWh)	0.0339	0.0335	0.0448	0.0599

Tariff	Charging Parameter	Approved 2017 tariffs	2018	2019	2020
NSP27	Fixed ($)	107.00	109.07	114.45	120.00
	Energy - summer peak ($/kWh)	0.1763	0.2075	0.2562	0.3034
	Energy - summer shoulder ($/kWh)	0.1570	0.1845	0.2270	0.2683
	Energy - winter peak ($/kWh)	0.1402	0.1642	0.2017	0.2379
	Energy - off peak ($/kWh)	0.0768	0.0727	0.0743	0.0752
NEE30	Fixed ($)	-	-	-	-
	Energy - off-peak ($/kWh)	0.0303	0.0299	0.0448	0.0599
NEE31	Fixed ($)	-	-	-	-
	Energy - off-peak ($/kWh)	0.0261	0.0258	0.0448	0.0599
NEE32	Fixed ($)	-	-	-	-
	Energy - off-peak ($/kWh)	0.0311	0.0307	0.0389	0.0539
NEE55	Fixed ($)	372.00	374.07	379.45	385.00
	Energy - peak ($/kWh)	0.1587	0.1561	0.1632	0.1714
	Energy - off-peak ($/kWh)	0.0444	0.0437	0.0457	0.0479
NEE52	Fixed ($)	-	-	-	-
	Energy - peak ($/kWh)	0.2132	0.1777	0.1856	0.1947
	Energy - off-peak ($/kWh)	0.0879	0.0861	0.0900	0.0944
NSP56	Fixed ($)	2,765.00	2,720.74	2,835.00	2,975.00
	Energy - peak ($/kWh)	0.1256	0.1236	0.1291	0.1354
	Energy - shoulder ($/kWh)	0.0954	0.0939	0.0979	0.1024
	Energy - off-peak ($/kWh)	0.0420	0.0413	0.0432	0.0454
	Demand capacity ($/kVA/mth)	19.3400	18.9900	19.9390	21.0356
	Demand critical peak ($/kVA/mth)	32.2400	31.6566	33.2390	35.0671
NSP75	Fixed ($)	5,815.00	5,509.00	5,771.20	6,073.00
	Energy - peak ($/kWh)	0.0450	0.0452	0.0468	0.0485
	Energy - shoulder ($/kWh)	0.0356	0.0354	0.0365	0.0377
	Energy - off-peak ($/kWh)	0.0161	0.0160	0.0166	0.0173
	Demand capacity ($/kVA/mth)	47.5000	47.0000	49.3500	52.0643
	Demand critical peak ($/kVA/mth)	80.0000	78.0000	81.9000	86.4045

Tariff	Charging Parameter	Approved 2017 tariffs	2018	2019	2020
NSP76	Fixed ($)	5,815.00	5,509.00	5,771.20	6,073.00
	Energy - peak ($/kWh)	0.0433	0.0427	0.0441	0.0458
	Energy - shoulder ($/kWh)	0.0333	0.0331	0.0340	0.0351
	Energy - off-peak ($/kWh)	0.0148	0.0146	0.0151	0.0158
	Demand capacity ($/kVA/mth)	49.0000	49.0000	51.4500	54.2798
	Demand critical peak ($/kVA/mth)	83.0000	82.0000	86.1000	90.8355
NSP77	Fixed ($)	5,815.00	5,509.00	5,771.20	6,073.00
	Energy - peak ($/kWh)	0.0428	0.0423	0.0437	0.0453
	Energy - shoulder ($/kWh)	0.0331	0.0328	0.0337	0.0348
	Energy - off-peak ($/kWh)	0.0142	0.0140	0.0145	0.0150
	Demand capacity ($/kVA/mth)	53.7300	52.2577	54.8700	57.8879
	Demand critical peak ($/kVA/mth)	89.1800	87.0662	91.4100	96.4376
NSP78	Fixed ($)	5,815.00	5,509.00	5,771.20	6,073.00
	Energy - peak ($/kWh)	0.0397	0.0392	0.0405	0.0419
	Energy - shoulder ($/kWh)	0.0311	0.0308	0.0316	0.0325
	Energy - off-peak ($/kWh)	0.0127	0.0126	0.0130	0.0135
	Demand capacity ($/kVA/mth)	59.1000	57.5305	60.4000	63.7220
	Demand critical peak ($/kVA/mth)	97.7800	95.5106	100.2800	105.7954
NSP81	Fixed ($)	5,815.00	5,509.00	5,771.20	6,073.00
	Energy - peak ($/kWh)	0.0197	0.0196	0.0199	0.0202
	Energy - off-peak ($/kWh)	0.0062	0.0061	0.0062	0.0063
	Demand capacity ($/kVA/mth)	38.6800	37.9800	39.8700	42.0629
	Demand critical peak ($/kVA/mth)	63.4000	62.2527	65.3650	68.9601
NSP82	Fixed ($)	5,815.00	5,509.00	5,771.20	6,073.00
	Energy - peak ($/kWh)	0.0191	0.0190	0.0192	0.0195
	Energy - shoulder ($/kWh)	0.0191	0.0190	0.0192	0.0195
	Energy - off-peak ($/kWh)	0.0080	0.0079	0.0081	0.0083
	Demand capacity ($/kVA/mth)	35.4600	34.8183	36.5500	38.5603
	Demand critical peak ($/kVA/mth)	58.0200	56.9701	59.8180	63.1080

Tariff	Charging Parameter	Approved 2017 tariffs	2018	2019	2020
NSP83	Fixed ($)	5,815.00	5,509.00	5,771.20	6,073.00
	Energy - peak ($/kWh)	0.1092	0.1075	0.1122	0.1176
	Energy - shoulder ($/kWh)	0.0476	0.0470	0.0486	0.0505
	Energy - off-peak ($/kWh)	0.0144	0.0142	0.0147	0.0153
	Demand capacity ($/kVA/mth)	4.1300	4.0553	4.2500	4.4838
	Demand critical peak ($/kVA/mth)	6.8300	6.7064	7.0417	7.4290
NSP91	Fixed ($)	20,245.00	19,889.20	20,870.00	21,995.00
	Energy - peak ($/kWh)	0.0195	0.0194	0.0197	0.0200
	Energy - off-peak ($/kWh)	0.0045	0.0045	0.0045	0.0045
	Demand capacity ($/kVA/mth)	2.5800	2.5333	2.6500	2.7958
	Demand critical peak ($/kVA/mth)	4.2600	4.1829	4.3920	4.6336
NEE93	Fixed ($)	-	-	-	-
	Energy - peak ($/kWh)	0.0193	0.0191	0.0196	0.0202
	Energy - off-peak ($/kWh)	0.0193	0.0191	0.0196	0.0202
NSP94	Fixed ($)	20,245.00	19,889.20	20,870.00	21,995.00
	Energy - peak ($/kWh)	0.0192	0.0191	0.0193	0.0196
	Energy - off-peak ($/kWh)	0.0043	0.0043	0.0043	0.0043
	Demand capacity ($/kVA/mth)	1.9300	1.8951	1.9898	2.0992
	Demand critical peak ($/kVA/mth)	3.2000	3.1421	3.2900	3.4710
NSP95	Fixed ($)	20,245.00	19,889.20	20,870.00	21,995.00
	Energy - peak ($/kWh)	0.0198	0.0197	0.0200	0.0203
	Energy - off-peak ($/kWh)	0.0047	0.0047	0.0047	0.0048
	Demand capacity ($/kVA/mth)	4.0000	3.9276	4.1230	4.3498
	Demand critical peak ($/kVA/mth)	6.6400	6.5198	6.8450	7.2215

4 Appendix: 2016 TSS

The TSS included via this appendix is the current AER approved TSS, referred to in this document as the 2016 TSS. It accordingly adopts the correction to made in the AER's amendment of 7 November 2016, made to rectify a mis-description of tariff classes and consumption thresholds in Table 3.3, page 25 of the document.

Note that the tariff 'class' identified in that table as the 'small business' tariff class encompasses both the small business customer category (consumption up to 40MWh) and the medium business customer category (consumption between 40 and 160MWh, which is subject to this addendum).

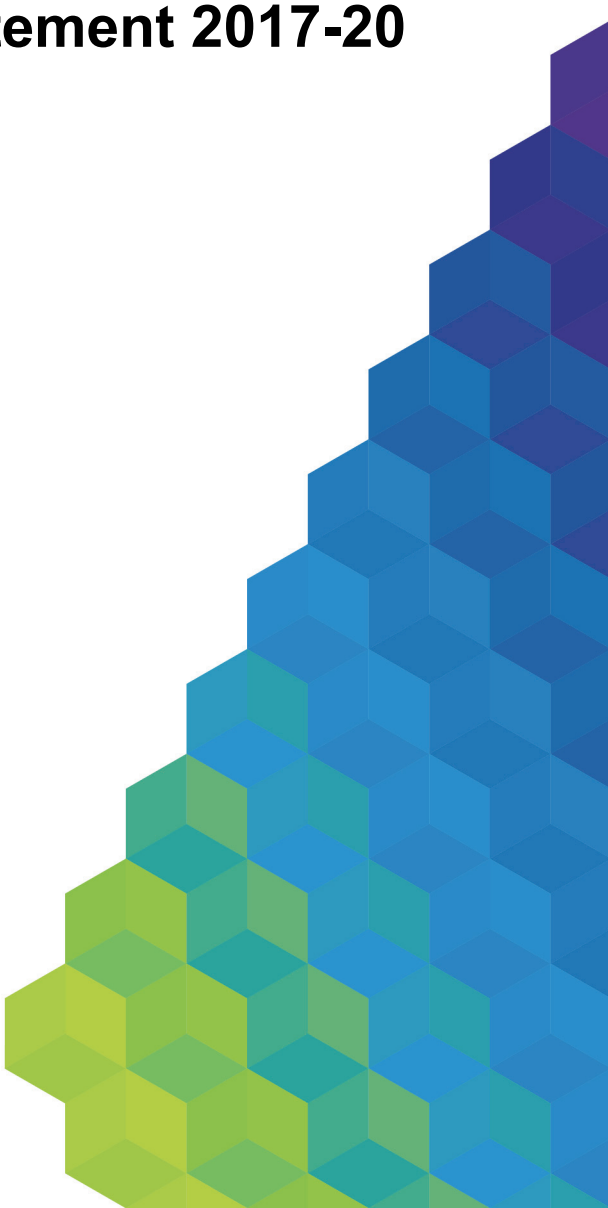
The change is included in the document in mark-up format.

APPENDIX

AusNet Electricity Services Pty Ltd

Revised Tariff Structure Statement 2017-20

Submitted: 29 April 2016



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Contact

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Summary

Cost reflective tariffs to increase efficiency, reduce future costs, and facilitate new products and services

The most important potential benefit from the introduction of cost reflective pricing is reduced long term costs for all consumers. All consumers are expected to benefit through more efficient network investment that arises due to the better alignment of consumer price signals with future network augmentation costs. This price signal provides savings for consumers who manage demand and energy usage, and will support the transformation of Victoria's electricity network by providing incentives for technological development, product innovation and behavioural change.

Residential and small business customers[1] choose whether to take up the cost reflective tariffs

In accordance with a policy decision of the Victorian government, residential and small business customers[1] will choose whether they take up a cost-reflective tariff and AusNet Services will only re-assign customers in these groups to the new tariffs on request of the customer's retailer. The Victorian policy also provides the opportunity for customers who have chosen the new tariffs to revert back to their prior tariff structure.

New tariff structures to include maximum demand charge

The new tariff structures introduce a maximum demand charge, commencing 2018. Residential customers and small business customers will remain on their existing network tariffs unless they choose to be assigned to the new tariff. All medium business[1] customers will be assigned to the new tariff structures.

The maximum demand charge, which will apply to customers' monthly maximum half hour usage between 3pm and 9pm, is cost reflective because it reflects how much each customer contributes to the network peak demand, which determines asset investment requirements. Critical peak pricing tariffs will be retained for AusNet Services' largest customers.

Alpine village customers will not have access to the new tariff structures

The maximum demand charge is significantly weighted to the summer months (Dec – Mar) when the network is most heavily loaded and likely to reach the limits of its capacity. This is not the case for the Victorian Alpine region however, where a winter peak load occurs and the new tariffs will therefore not be available to Alpine village customers.

Customers to pay less for network services

Our analysis indicates that throughout 2017 to 2020, most customers will have a lower network charge than in 2015, the final year of the previous regulatory control period.

Tariffs designed to ensure smooth transition

To facilitate the transition to the new tariff structures, the tariff structure proposed for residential customers is common across Victoria. This will enable information campaigns that contain simple, consistent messages to help customers understand their new bills. For medium business customers, to whom 'opt-in' will not apply, we are proposing a gradual introduction of the maximum demand charge to give customers time to adjust.

[1] Throughout this document the term 'small business customers' refers to non-residential customers using less than 40MWh of electricity per year, and the term 'medium business customers' refers to non-residential customers using between 40 and 160MWh of electricity per year. Together the two customer segments comprise the customers in the Small I&C Class.

Cost reflective tariffs to increase efficiency, reduce future costs, and facilitate new products and services

The most important potential benefit from the introduction of cost reflective pricing is reduced long term costs for all consumers. All consumers are expected to benefit through more efficient network investment that arises due to the better alignment of consumer price signals with future network augmentation costs. This price signal provides savings for consumers who manage demand and energy usage, and will support the transformation of Victoria's electricity network by providing incentives for technological development, product innovation and behavioural change.

Customers and other stakeholders provide vital input to tariff development

We consulted widely in order to understand customer and other stakeholder attitudes and concerns regarding our initial Tariff Structure Statement (TSS) proposal. This stakeholder feedback informed and influenced our proposal. We have consulted further in developing our response to the Government's advised requirements for an opt-in implementation of cost reflective tariffs.

Equity and affordability are key considerations for us

There are potential equity and affordability challenges in the move toward a more cost reflective or user-pays model for network tariffs, and it is important to ensure vulnerable customers are adequately protected. The government's opt-in implementation for residential and small business customers significantly addresses this concern.

1 Introduction

1.1 Background and objective

There have been a number of recent changes to the National Electricity Rules ('Rules') that underpin how distribution businesses set prices for their standard control services. In particular, in November 2014, the Australian Energy Market Commission (AEMC) made a Rule Determination titled*: National Electricity Amendment (Distribution Network Pricing Arrangements) Rule 2014*, which codified a number of important changes to the Rules related to the development of tariffs for standard control services.

The key features of this Rule Determination were that:

- A network pricing objective was codified in the Rules, requiring each network tariff to reflect the efficient costs of providing network services to the consumers assigned to the tariff.
- Distribution Network Service Providers (DNSPs) must base their tariffs on the Long Run Marginal Costs (LRMC) of supply.
- DNSPs must recover their allowed revenue in a way that minimises distortions to the price signals for efficient usage provided by LRMC-based prices.
- DNSPs must (a) manage the impact of annual changes in network prices on consumers, and (b) propose network pricing structures that consumers are reasonably capable of understanding.
- DNSPs must develop a Tariff Structure Statement (TSS) that sets out their network price structures. The TSS is to be approved by the AER as part of the regulatory determination process and will apply for the five-year regulatory control period. Price levels will continue to be approved by the AER on an annual basis.
- DNSPs are required to describe how they have consulted with retailers and consumers on the design of network prices and sought to address their concerns.

Notwithstanding the above, a number of important transitional arrangements have been outlined in the final Rule Determination. These include that:

- Victorian DNSPs were able to submit their proposed TSS to the AER by 25 September 2015, and
- The new set of pricing principles will only apply from 1 January 2017, with the existing Rules applied up until then.

Proposed indicative tariffs for year 1 of the 2016 - 2020 regulatory control period (i.e. calendar year 2016) were approved by the AER on 16 December 2016.

The objective of the TSS is, therefore, to:

- Set out AusNet Services' proposed approach to setting tariff structures between 2017 and 2020;
- Demonstrate AusNet Services' rationale for proposing those tariff structures, including how the proposal complies with the pricing principles contained within the Rules;
- Demonstrate how the development of AusNet Services' proposed tariffs has been informed by consultation with its key stakeholders throughout the development of this TSS; and
- Provide information to allow stakeholders to assess alternative tariff structure options so they can be informed participants in the remainder of the Tariff Structure Statement Review.

AusNet Services original Tariff Structure Statement (TSS) proposal for 2017 to 2020 submitted to the AER was consistent with the arrangements discussed above.

The Victorian Government subsequently announced, on 21 December 2015, its policy decision that the introduction of new cost reflective tariffs for residential customers and small business customers[1] is to be on an opt-in basis. Accordingly, customers in these groups will choose whether to transfer to the new tariff structure. The government's policy is put into effect by an amendment to the Advanced Metering Infrastructure (AMI Tariffs) Order, gazetted on 14 April 2016.

On 22 February 2016 the Australian Energy Regulator issued a draft decision to not approve AusNet Services' original TSS to give AusNet Services an opportunity to address the opt-in requirement in our revised TSS.

This Revised TSS proposal accordingly makes amendments to the tariff structures described in the original TSS, to meet the opt-in requirement announced by the Government. It also responds to other stakeholder feedback received as part of the formal AER review process since the submission of our original TSS.

Given that our original TSS is on the public record and to improve the ease of reading we have removed material that is either no longer relevant or necessary to be repeated. For example, we have removed:

- the discussion of options to mitigate potential adverse impacts of cost reflective tariffs on vulnerable customers. We believe the opt-in decision addresses this issue; and
- the detail of the original stakeholder consultation undertaken in the development of our original TSS. We have replaced it with the consultation undertaken specifically for this revised TSS.

1.2 Audience

This document is written for two distinct audiences:

- the Australian Energy Regulator (AER) who, in order to approve our tariff structures, must assess whether the TSS complies with the pricing principles set out in the National Electricity Rules; and
- Stakeholders, who need information about AusNet Services, the tariff setting rules and process, and information on our proposed structures and tariffs.

1.3 Structure of this report

The remaining sections of this TSS are structured as follows:

- Section 2 provides a primer on cost reflective tariffs, including explaining the importance of cost reflective tariffs and explaining what is cost reflective for AusNet Services' network;
- Section 3 describes AusNet Services' tariff structure proposal, including how it proposes to transition its existing tariffs to cost-reflective levels;
- Section 4 outlines AusNet Services' assessment of the impact of the tariff proposal for retail customers; and
- Section 5 provides additional information AusNet Services has prepared to address concerns identified in our Stakeholder engagement, to allow Stakeholders to be informed participants in the remainder of the Tariff Structure Statement Review.

1.4 Compliance guide

Important sections of this document for the purposes of assessing Rules compliance are as set out in the following table.

Table 1.1: Reading Guide to TSS Rules Compliance

Requirement	Rule	Location
A description of how the proposed TSS complies with the pricing principles.	6.8.2(c), 6.8.2(d2)	Appendix B
An overview paper which includes a description of how customers and retailers were engaged in the development of the TSS proposal and how AusNet Services sought to address relevant concerns identified in that engagement.	6.8.2(c1a)	AusNet Services' Tariff Structure Statement 2017-20 Revised TSS Overview Paper
An indicative pricing schedule.	6.8.2(d1), 6.18.1A(e)	Attachment 1
The tariff classes.	6.18.1A(a)(1)	Section 3.5
The policies and procedures for assigning customers to tariffs or reassigning customers from one tariff to another.	6.18.1A(a)(2)	Section 3.5
The structures for each proposed tariff.	6.18.1A(a)(3)	Section 3
The charging parameters for each proposed tariff.	6.18.1A(a)(4)	Section 3
A description of the approach to setting each tariff in each pricing proposal during the regulatory period.	6.18.1A(a)(5)	Section 3.7, and Appendix C

2 Cost reflective tariffs

2.1 Objective of this section

As outlined in the Introduction, the new Rules for electricity distribution network prices require that tariffs reflect the 'efficient costs' of providing network services and must be based on Long Run Marginal Costs of supply. Throughout this report, the tariffs that meet these requirements are referred to as 'cost reflective' tariffs. However, the Rules also provide that this requirement is subject to the tariffs complying with *"…all applicable regulatory instruments"*[2]. The Victorian government's policy that adoption of cost reflective tariffs be via customer choice, for residential and small business customers, accordingly amends these requirements in relation to these customer groups.

The objective of this section is to provide the key background to understanding AusNet Services proposal for cost reflective tariffs, including explaining:

- why cost reflective tariffs are important, and
- what is cost reflective for AusNet Services network;

Further detail on the Rule requirements for distribution network tariffs, and how they relate to AusNet Services' tariff proposal are set out in Appendix B.

2.2 Why are cost reflective tariffs important?

If the price charged for a service does not reflect the costs incurred by the supplier or the benefits available to a customer or to society then too much or too little of that service will be supplied and opportunities for the producer or consumer to change the level and scope of the service to better suit their preferences will be lost. Economists refer to these effects as inefficiencies and by removing these inefficiencies society can be made better off.

In electricity, due to limitations of the old accumulation meters, AusNet Services has historically relied on charging customers based on the amount of energy that they consume, as this was considered to be the most equitable means of recovering a business' efficient costs of production (e.g., consumers with higher energy usage pay higher costs, consumers with lower energy usage pay lower costs).

However, while it was the best available, this method of cost recovery did not reflect the true cost individual consumers were placing on the system, some were paying too much and some were paying too little relative to the costs they caused. This resulted in the following problems or distortions:

- Overcharging customers who place lower than average demands on a distribution network during system peak demand periods to cover some of the costs of those customers that place higher than average demands on a distribution network during those system peak demand periods;
- Overcharging customers who consume a higher than average amount of energy across the year relative to a customer with who places the same demand on the network at times of system peak demand but who happens to consume a lower than average amount of energy from the network. (We note there may be good reasons other than network costs to discourage higher than average consumption.);
- Undercharging for the network costs imposed by appliances that increase the network peak (e.g., air-conditioners);
- Undercharging for the network costs imposed by appliances or technologies that reduce energy throughput across the year, or large parts of the year but do not reduce consumption at peak times (e.g., photovoltaic systems);

[2] AEMC, National Electricity Rules, clause 6.18.6(j)

- Discouraging behaviour or investment in appliances or technologies that reduce a customer's demand during system peak demand times (e.g. such as more insulation or control systems that cycle air-conditioners off and on at peak times); and
- Discouraging investment in appliances or technologies that would reduce the need to distribute energy through the network during system peak demand times (e.g., a battery system in support of a photovoltaic system that stores energy at off peak times and exports energy at peak demand times).

For society as a whole, these distortions result in a network that is larger and more expensive than it would be if these distortions did not exist. As the AEMC stated in its *National Electricity Amendment (Distribution Network Pricing Arrangements)*[3], the current energy based network prices that are available to residential and small commercial customer classes '*provide inefficient signals to consumers about when, how and where to use electricity*'.

In combination, more cost reflective tariffs should lead to:

- Better investments being made by end customers in energy consuming appliances, distributed generation technology and energy storage solutions;
- Better consumption decisions being made by end customers; and
- Better investment decisions being made by distribution network businesses as a result of their end customers' consumption and investment decisions.

This benefits customers by lowering the long term costs of the network and increasing the financial benefits of investments customers make to change their own energy consumption behaviour.

The network benefits from lower costs through investment that more closely match the preferences of its customers. It also receives better signals when deciding when demand management is more appropriate than network investment.

With technological change driving increased consumer deployment of new technologies and changing the way they use electricity and the network, the value in implementing cost reflective pricing becomes even more pronounced. This aspect is considered in more detail in Section 3 of AusNet Services *Tariff Structure Statement 2017-20 Revised Proposal Overview Paper.*

2.3 What is cost reflective?

The previous section has set out the benefits of introducing tariffs that are more cost reflective. This section explains: what the costs of AusNet Services' network are; and what types of tariff structures are needed to improve cost reflectivity.

2.3.1 Drivers of distribution network costs

Maximum demand

The major network cost affected by customer behaviour is the amount of investment in capacity required to meet the maximum demand period. The distribution network needs to be built so that it can continue to function at the period when most customers want to use the most energy, such as hot summer evenings. If there is not enough network capacity (e.g. in the transformers and powerlines), parts of the network will fail and customers will experience supply interruptions and ultimately black outs.

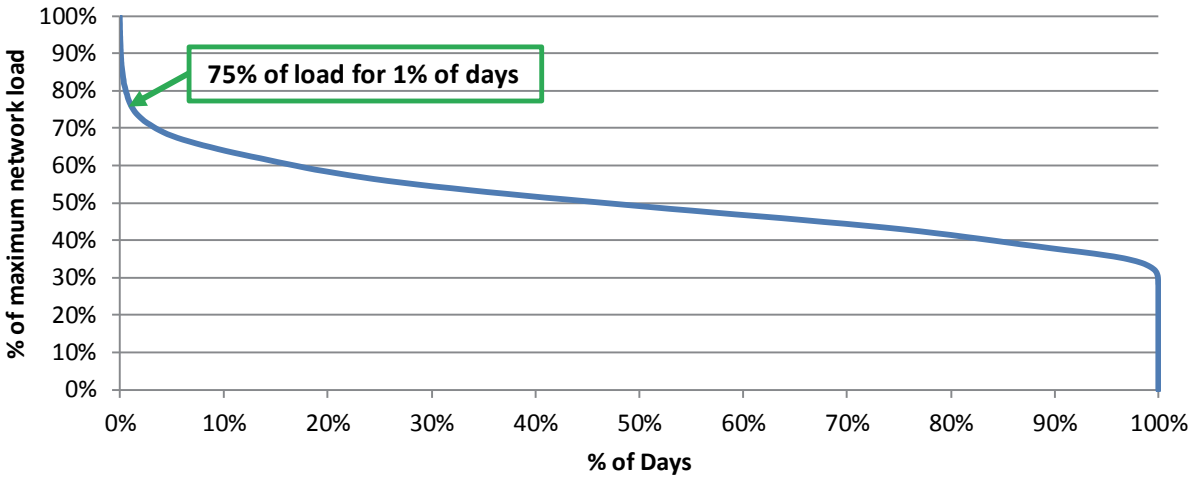
System maximum demand, which is the highest amount of energy that is consumed in total from the network over a 30 minute interval, determines the capacity built and, therefore, the cost of network. In Victoria, these peaks are generally times of extreme air-conditioning load on very hot summer weekdays. AusNet Services' network normally peaks between 3:00pm and 6:30pm in summer.

3 AEMC 2014, *Distribution Network Pricing Arrangements, Rule Determination, 27 November 2014*, Sydney, page 36

A useful analogy to understand peak demand and costs is the Melbourne Cricket Ground (MCG). The stadium was built to be large enough to handle the demand for seats for the AFL finals series (the peak period). Therefore, the overall capital costs are likely to be largely determined by the need to seat 100,000 people safely, not by the average number of people who use the stadium throughout the year. For example, when a grand final replay has to be held and a further 100,000 spectators attend, there are no additional capital costs to build further capacity. Conversely, when only 20,000 people attend a home and away match the costs of having already built the capacity to seat 100,000 are not reduced.

The figure below illustrates that, for AusNet Services' distribution network in aggregate, the network is only operating at the highest capacities for a small portion of the year. Only 1% of days required more than 75% of maximum capacity. Thus, a quarter of the network exists only to service 3 days of the year.

Figure 2.1: Network load by duration, 2015



Individual customers' demand contributes to the maximum demand for their section of the network and for the network as a whole.

Further details of how AusNet Services has calculated the future costs of meeting maximum demand, and specifically the long run marginal cost for the network are included in Appendix B - , Section B.2.

Other cost drivers

Although maximum demand is the major cost driver that is influenced by customer behaviour, there are other costs that must be recovered. Only a small proportion of AusNet Services' costs are driven by its demand and energy forecasts, hence these 'other costs' are significant.

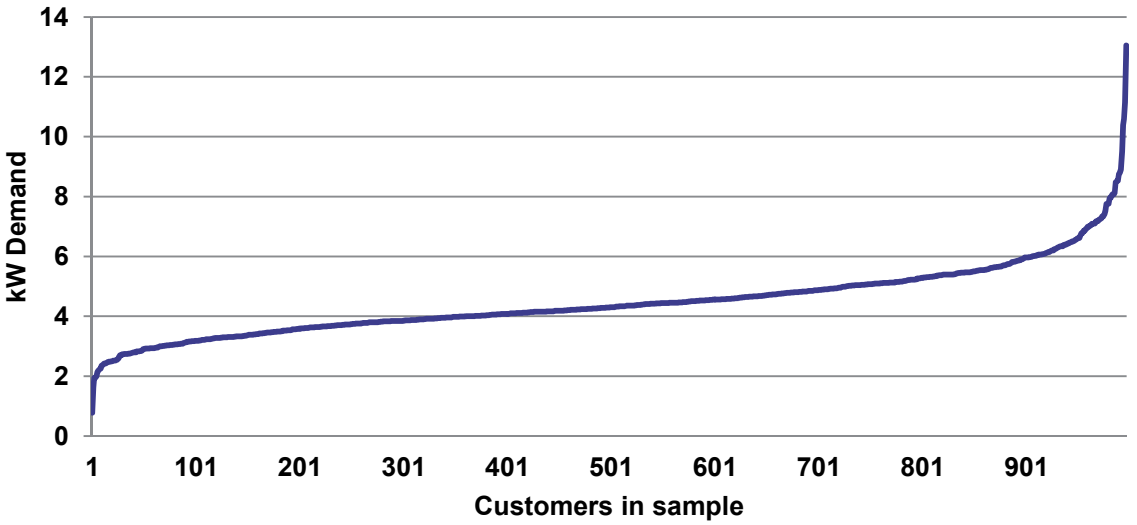
What determines the costs of AusNet Services' electricity distribution network?

- many costs are relatively fixed – assets have already been built and will last a long period of time;
- costs of maintaining assets are largely fixed – the costs do not vary with the amount of energy being consumed from the network outside of the peak period.
    - e.g. if electric coffee machines became more popular, so that customers were using more electricity in the mornings, this would not increase the costs of operating the network, so long as the morning demand on the network did not overtake the maximum demand which currently occurs in the evening. This is because the assets required to meet the morning peak are already in place.
- changes in obligations (such as around bushfire safety) can drive increases (or decreases) in expenditure.

2.3.2 Tariff structures that are cost reflective

Existing tariffs are based on a combination of fixed charges and energy charges (rates that apply to the amount of electricity that is consumed). As discussed above, a major driver of costs is maximum demand and not energy usage, however, as illustrated in the following example, energy use is not a good indicator of a customer's demand. The figure below shows the maximum demand for a sample of customers each of whom use around 4.3MWh per year. It can be seen that there is significant variation in how much these customers contribute to network costs. Based on a sample of 1,000 customers, the range of peak demand was 0.8kW at the low end to 13kW at the high end.

Figure 2.2: Maximum demand (kW) range for 1,000 customers using ~4.3MWh p.a.



To understand the variation in demand, it is helpful to think about what these customers might look like. For example, two customers may use different types of cooling, such as if one customer has a small air-conditioning unit that is in constant use, and another customer might have multiple units but only uses them during peak times. Another example might be differences due to working hours or lifestyle, such as a shift worker who is not home during the period when maximum demand occurs.

As maximum demand is the main driver of costs, AusNet Services is proposing to introduce a demand charge into our tariff structures. Details of the proposal are set out in Section 3. This means that in the above sample, the customers with the highest demand will pay the highest network tariffs, while the customers with low demand, who place very little cost on the network, will have lower network tariffs.

To further ensure cost reflectivity, the proposed demand tariffs will recover more costs at peak times when everyone wants to use the network (i.e. the network's 'grand final'), rather than at off peak times when there is lots of spare capacity.

3 Tariff structure proposal

3.1 Objective of this section

This section sets out the key components of AusNet Services' tariff structure proposal, including outlining:

- existing tariff structures, which are retained for residential and small business[1] customers, and to identify attributes that are proposed to change with introduction of the maximum demand charge;
- proposed cost reflective DUoS tariff structures, including the transitional approach proposed for tariffs applying to medium business[1] customers who will all be assigned to the new tariffs;
- proposed tariff classes and the procedures that will apply when assigning retail customers to tariffs or reassigning retail customers from one tariff to another;
- proposed indicative tariffs for its Alternative Control Services; and
- the approach to setting annual tariffs.

3.2 Existing network tariff structures

This section sets out AusNet Services' existing tariff structures. There are a number of DUoS tariffs that are available to AusNet Services' customers. A customer's eligibility for a particular tariff will generally depend upon, amongst other things:

- The customer type (e.g., residential, small commercial);
- The voltage level that they are connected to;
- The amount of energy that they consume; and
- Their distance from the transmission terminal station they are served by (for some very large customers who take supply at greater than 22,000 volts).

AusNet Services' existing tariffs include a number of different tariff components (being the parameters that are used as the basis for charging the customer). These include, but are not limited to:

- **Fixed charge** ($/day): This tariff component is calculated based on the number of days a customer has been connected to AusNet Services' network over the billing period,
- **Energy charges** ($/kWh): This tariff component is calculated based on the amount of energy that a customer has consumed over the billing period. The level of the energy charge may vary:
    - At certain times of the day (in the case of 'Time of Use tariffs' or 'Two-rate tariffs'),
    - At certain times of the year (in the case of seasonal time of use tariffs or multi-rate tariffs), or
    - Above and below a certain pre-determined level of usage (e.g., the first 1020kWh over a 90 day period in the case of a 'block tariffs').
- **Capacity charge** ($/kVA): This tariff component – which currently only applies to customers who consume above 160MWh per annum - is calculated based on a customer's installed connection asset/s, for example the:
    - Nameplate rating of the transformer supplying the customer's installation, or
    - Rating of the cabling and switchgear that makes the customer connection point, and

- **Critical peak demand charges** ($/kVA per annum): This tariff component – which only applies to customers who consume above 160MWh per annum - is based on a customer's average demand over a short, critical peak period (e.g., those 20 hours or so per annum when aggregate system demand is predicted to be at or near its highest levels).

Further background on key tariff concepts is set out in *Appendix A – Key Tariff Concepts*.

Over the current regulatory control period, AusNet Services has introduced a number of new, cost-reflective tariffs that it believes are already consistent with the new Rules. In particular, in 2011, AusNet Services became the first distribution network in Australia to introduce a dynamic, cost-reflective, critical peak demand tariff to apply to its large industrial customers. This price signal was designed to reflect the future cost (LRMC) to AusNet Services of meeting increased use of its network during times of system peak demand. This cost reflective price signal was designed to incentivise industrial and large commercial customers to reduce their load during those peak periods, where the benefit to them (via lower network charges) exceeded the cost to them of doing so. This has been a highly successful tariff, contributing up to 102MW[4] reduction in system peak demand. This has led to the more efficient use of AusNet Services' distribution network, lower costs to those customers who have responded to the price signal, and lower costs to all consumers in the long-run via lower augmentation related capital expenditure due to the reduction in system peak demand.

AusNet Services also introduced seasonal time of use energy tariffs (STOU energy tariff) in 2013, as a tariff option available to customers in the residential and small I&C classes. These tariffs were also designed to reflect the future cost to AusNet Services of meeting increased use of its network during times of system peak demand. Rates were pitched at a level to encourage uptake, however this has been extremely low.

AusNet Services is proposing to retain both the critical peak demand tariff structure for large customers and the STOU energy tariff for residential and small business customers over the period covered by this TSS, as we consider these tariffs to already be consistent with the requirements of the Rules.

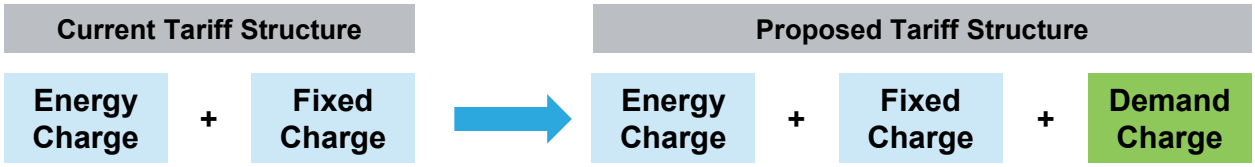
3.3 Proposed network tariff structures

This section outlines our proposed tariff structure for the residential customers and non-residential customers consuming less than 160MWh per year, and highlights changes made to meet the opt-in requirement (Section 3.4) and also further detail where our tariff structure or approach differs by customer segment (Section 3.5). As noted above, the tariff structure for large industrial customers will remain unchanged.

The relative amount of revenue collected from each tariff class will *not* change under this proposal.

As highlighted in the diagram below, the proposed high level tariff structures for the small customer classes introduces a demand charge alongside the existing energy and fixed charge components..

Figure 3.1: Proposed changes to high level tariff structure



The new structure ensures that there is no different pricing or treatment of customers based on any technology related investments they may have made such as batteries or solar panels. The proposed structure is designed to achieve an outcome where customers with lower demand in the maximum demand period pay less than customers with the same energy consumption and higher demand.

[4] This reduction in system peak demand was recorded over the 2014/15 summer period.

3.4 Proposed high level changes to meet the opt-in requirement

To meet the opt-in requirement we propose the following changes to our original TSS:

- We will retain our current residential and small business tariff structures (that do not include the demand charge) including the time of use energy tariff structure.
- All residential and small business customers will remain on one of the pre-existing tariff structures unless we receive notice in writing from the customer's retailer to assign the customer to a new cost reflective tariff, i.e. until they opt-in.
- A retailer of a residential or small business customer who previously opted into a cost reflective tariff can provide written notice till 31 December 2020 that the customer has requested to opt-out of their cost reflective tariff and revert to their original tariff structure (that is not cost reflective). This is to meet the requirement of the additional reversion period. If we receive such a notice we will assign the customer to the tariff structure (or nearest equivalent) they were on prior to their decision to opt-in to a cost reflective tariff[5].
- New residential and small business customers will be assigned to currently available energy based tariffs unless the customer, via their retailer, requests assignment to a different tariff (refer table 3.1 which summarises the alternative tariffs available)

The proposed tariffs with a demand charge for residential and small business customers will be fully cost reflective from implementation, i.e. they will have a full demand charge from 1 January 2018[6].

In the original TSS a transition approach which phased in the demand component over a number of years was proposed. The transition period is no longer needed as customers are protected through the opt-in requirement. Also any transition with a reduced demand charge will similarly reduce the potential benefit for those customers who choose to opt-in and limit overall potential take up of the new tariff structures and the long term value of this reform.

3.5 Further details and key differences by customer segment

This section outlines further details on our proposal and where our proposal differs between residential, small business customers and medium business customers.

We also outline our proposed approach to a very specific and unique customer segment in the alpine region[7]. Unlike the rest of our network that has a maximum demand in the summer months, customers in this region have a very clear winter peak that warrants a specific approach.

Cost reflective tariff structure – further detail

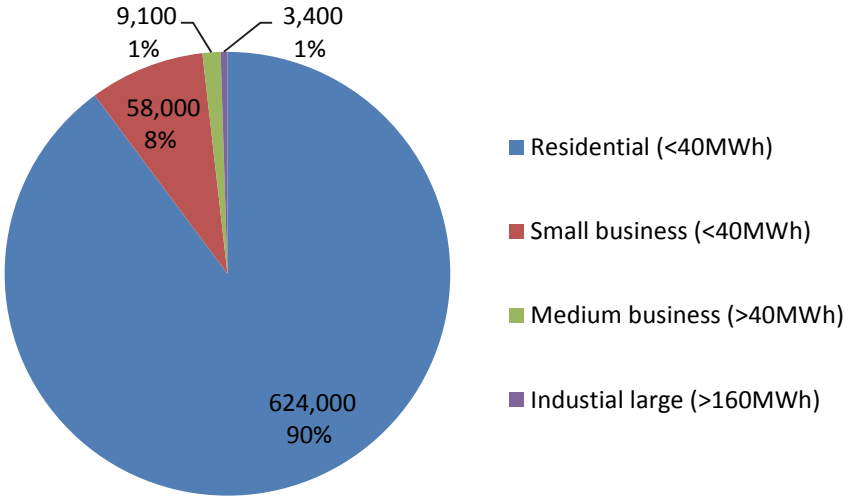
Figure 3.2 below highlights the proportion of our customers (by customer number) by segment as described above. It highlights that 90% of our customers are residential, approximately 9% are small I&C class and less than 1% are large business class customers. In the context of tariff reform approximately 98% of our customers will be captured by the new opt-in requirement.

[5] This additional reversion only applies to customers on a new cost reflective structure it does not apply to customers who have opted into the time of use energy tariff.

[6] To allow time to implement and test our billing system the new cost reflective tariffs will only commence on 1 January 2018. The current tariff structures will apply for 2017. This is consistent with our original TSS proposal.

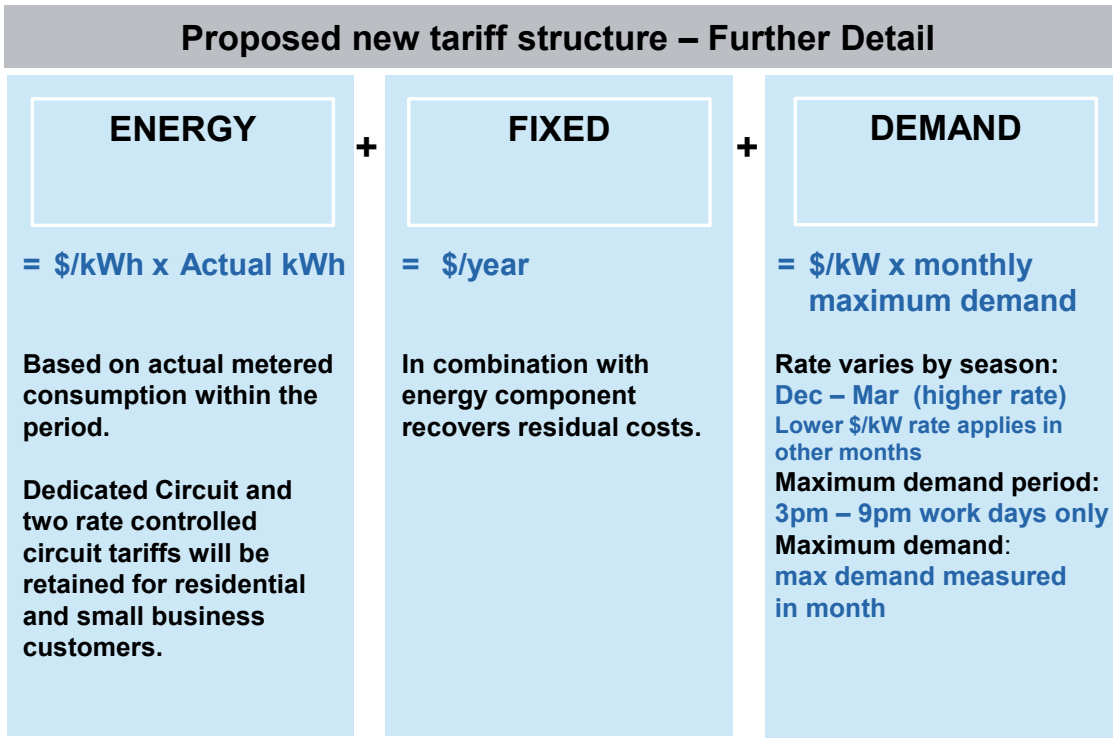
[7] The alpine region is defined as the following suburbs: Mount Hotham, Dinner Plains, Falls Creek and Mount Buller

Figure 3.2: Customer number breakdown by segment



The diagram below provides further detail on the key elements of the new tariff structure for residential, small business and medium business customers including the features of the demand charge. The diagram highlights that the definition and structural parameters of the demand component do not vary by customer segment. This is consistent with our approach in our original TSS.

Figure 3.3: Proposed new tariff structure – further detail



AusNet Services has a large number of existing tariffs such as for off-peak hot water. As noted in the diagram above many of these will be retained and one key reason is that they are already cost reflective. Specific details of what we are proposing for each tariff are included in the full TSS document.

The new demand component applies to a customer's recorded maximum demand during the hours of 3pm and 9pm on working days. The demand component will have different rates between peak season (December to March) and off-peak season (April to November), reflecting the profile of network peak demand which is significantly higher in the summer months, and is the key driver of network investment.

Residential customers – further details and specific differences

There are no further details or specific differences for this segment.

Small business customers – further details and specific differences

There are no further details or specific differences for this segment.

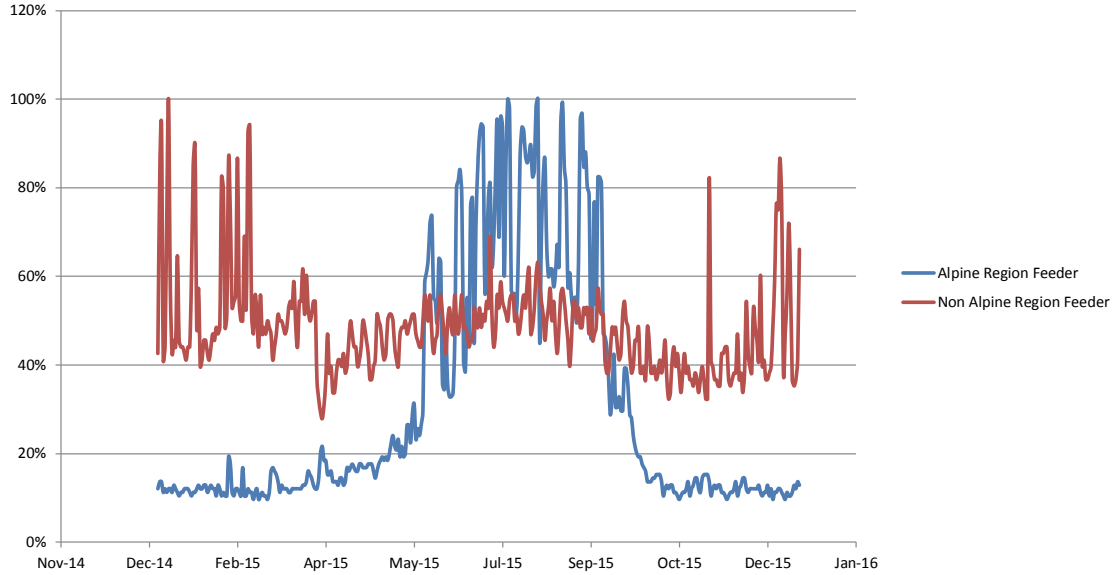
Medium business customers – further details and specific differences

- Given that the opt-in requirement does not apply to customers consuming >40 MWh per annum all our medium business will be assigned to a cost reflective tariff from 1 January 2017 with a 5 year transition period with the first year having a zero weighting to the demand charge component.
- This is consistent with our approach in our original TSS and is designed to mitigate potential transition issue such as material price variations or volatility.
- As highlighted in Figure 5.2 many of these customers are either on a two-part tariff or a dedicated circuit tariff. These tariff structures will be retained with the addition of the phased in demand component.
- In addition, to provide flexibility and increased customer choice medium business customers may at their discretion and with written retailer notice provided to us opt-in for a fully cost reflective tariff with a single rate energy tariff rate and a full demand component from 1 January 2018.

Alpine region customers – further details and specific differences

As noted above, unlike the rest of our network, customers in the alpine region exhibit a clear winter peak as evidenced in Figure 3.4.

Figure 3.4: Comparison load profile alpine region feeder versus non alpine region feeder



A tariff with a demand component with a higher price in the summer seasons (December to March) and a lower price in the rest of the year is not cost reflective for these customers and would send a perverse price signal.

The result of which would be that these customers would almost certainly all opt-in to the new cost reflective tariff structure and be incentivised to use more electricity in the winter months thereby potentially increasing the need for additional augmentation in this region. This is contrary to the intent of the reform and the purpose of cost reflective tariffs.

Accordingly for all customers in this region we propose that the cost reflective tariff is not available and that they remain on their current tariff structures.

For these customers their current tariff structures are more cost reflective than a demand based tariff with a higher summer demand charge.

Our discussions with stakeholders including retailers confirmed that this approach can be implemented and was also preferred (at least in the short term) to developing a winter peak demand charge tariff specifically for these customers.

3.5.1 Access to alternative tariffs

The following table summarises the alternative tariff structures available to customers:

Table 3.1: Summary of alternative tariff structures

Tariff Structure	Customer segment		
	Residential	Business	
		Small	Medium
Current energy based tariffs	Default	Default	-
Non seasonal TOU energy tariff – a tariff satisfying the government's specification for a TOU flexible AMI distribution tariff[8]	✓	-	-
Cost-reflective (phased in maximum demand component)	-	-	✓
Cost-reflective (with full maximum demand component, commencing 2018)	✓	✓	✓
Seasonal TOU energy tariff (a currently available cost reflective tariff structure)	✓	✓	-

3.5.2 Transition proposal for non-residential customer existing tariffs

The detailed transition proposal is set out in Appendix C. AusNet Services proposes to transition each of its existing low voltage non-residential distribution (DUoS) tariffs during the period covered by the TSS. All tariffs that are retained will have the two demand tariff components (peak season and off-peak season) added to them. These will be gradually introduced over 5 years starting from 2018 (i.e. the tariff will have '0' weight on the maximum demand component in 2017. Each year will increase the strength of the demand signal by 20%. The full demand charge would be in place for the 2022 calendar year tariffs, which is beyond the period covered by this TSS.

3.5.3 Further information

AusNet Services has a number of existing tariffs such as for off-peak hot water, which are generally applied together with a base tariff. As noted in Figure 3.3 above a number of these will be retained and one key reason is that they are already cost reflective.

The TSS does not propose tariff *levels*, including aspects such as the transition path (the weighting between tariff components such as the energy rate and the demand charge). Tariff levels are set through the annual pricing submission process once factors such as the annual revenue allowance are finalised. However, Attachment 1 sets out indicative pricing for the period covered by the TSS, which provides an indication of pricing as the new demand tariff component is introduced, and allows customer impacts to be analysed and understood.

[8] Government of Victoria, Advanced Metering Infrastructure (AMI Tariffs) Amendments Order 2016, Clauses 9A (2) and 9A (3)

More broadly, AusNet Services' proposed tariff structure is consistent with the requirements of the Rules, including the pricing principles, as detailed in the table in *Appendix B – Compliance of TSS with Pricing Principles*.

3.6 Post-transition cost-reflective tariffs for medum business customers

While AusNet Services is proposing to gradually transition to cost reflective tariffs for the medium business customer segment over a period that extends beyond this TSS period, it is worth discussing what the end point of this transition will be, i.e. what would a cost reflective tariff look like once the transition period is over?

It is important to note that in the future DNSPs will be required to submit a TSS every five (5) years as part of their Regulatory Proposals to the AER. It is also likely that the attitudes towards cost reflective tariff structures may change over time, thereby making possible and desirable further refinements not being contemplated at this time.

However, within the confines of the tariff structures proposed by AusNet Services in this TSS (and those of the other DNSPs), it is possible to forecast how each element of the tariff (demand, energy, fixed) will be set once the transition period is complete. This is different to the "theoretically pure" cost reflective tariff referred to in Appendix B.87 which includes concepts such as locational pricing which AusNet Services and the other DNSPs are not proposing.

Assuming no change in tariff structures, by the end of the transition period, the more cost-reflective tariffs that would be in place would have the following characteristics:

- The demand charge would still be set based on AusNet Services' LRMC, and the same demand charge (in $/kW) would apply irrespective of where the customer was located on AusNet Services' network. Based on AusNet Services' current forecasts of augmentation expenditure and maximum demand growth, the demand charge during summer would be approximately $9/kW and the off-season demand charge would be closer to $2/kW.
- The 3pm-9pm maximum demand window will continue to apply, so long as this period still covers the time of the network peak demand, and peak demand will continue to be calculated on the basis of the highest 30 minute consumption (calculation uses the 30 minute measured consumption multiplied by 2).
- All energy rates will align with current off-peak energy rates, as these energy rates are already very close to cost-reflective levels.
- Fixed charges will likely increase from current levels, to account for the residual costs not recovered under either the demand charge or the energy charge.

As noted above, this 'final' tariff structure is still not a 'theoretically pure' cost reflective tariff. Theoretically pure notions such as locational pricing and charging based on the coincident peak time within that location,[9] whilst economically sound in theory, have a number of practical limitations. These practicalities limit the ability to introduce such tariffs whilst still complying with the Rules requirements regarding customer impacts, customer understanding and administrative costs. Of these:

- Customer understanding can be improved and may not be a binding constraint in the future;
- Customer impacts will always need to be considered and may or may not pose a difficulty in the future; while
- Administrative costs may be the most enduring or determinative binding constraint.

[9] Under a coincident peak demand charge, a customer's demand charge would apply to that 30 minute period when the network as a whole experiences its peak demand. The time that the peak occurs is unknowable in advance and may not align with an individual customer's own peak demand. For example, if the network peaks at 4pm and a customer's peak is not until 6.30pm, that customer's demand charge would be based on their demand at 4pm. The only difference in the case of a locational coincident peak demand charge is that the time of the peak demand is defined with regard to the specific element of the network (zone substation, feeder, etc.).

3.7 Addressing stakeholder feedback

3.7.1 Customer impact analysis with different tariff options

AusNet Services original TSS proposal included analysis of how customer impact could be modified by redistribution of who pays for network services. With the government decision that cost reflective tariff implementation for residential and small business should be via an opt-in approach this analysis provides no further value and is removed in this TSS revised proposal. However it remains on the public record in the original TSS proposal.

This section provides a brief overview of our approach to customer engagement, the key messages we have heard from our stakeholders and how these messages have informed our proposal[10].

Customer engagement is not only critical to successfully implement tariff reform but also a key component of our broader corporate strategy. We are continuing to develop our customer strategy and specific capabilities / functions within our business to better manage customer engagement. Customer engagement will continue through this entire implementation process and beyond.

Our approach to engagement since the opt-in announcement has been designed not only to inform customers of our updated analysis and proposed changes given the Government announcement but more importantly to gather feedback, assist in getting the balance right with key trade-offs and ultimately shape our thinking. This assists in developing a more considered proposal, minimising surprises and obtaining stakeholder buy in.

Our engagement process has involved a mixture of one-on-one or bilateral meetings and workshops. Throughout this process we have engaged with retailers, other distributors, customer advocates / representatives, Victorian Government representatives and AER representatives.

Earlier consultation carried for the development of tariff structures and transition paths presented in our original TSS proposal remains relevant and important to the revised proposal, particularly as our objective of amendments is focused on addressing the requirements of the Victorian government's opt-in policy decision. A detailed description of that engagement activity and how it was taken into account was included as an attachment to the Overview Paper for the original TSS proposal, and is included with this revised TSS proposal in Appendix D.

3.7.2 Key messages since the Government's opt-in announcement

Our engagement process since the opt-in announcement identified the following broad areas of feedback:

- Proposed changes to respond to the opt-in requirement – including our desire for minimal changes from our original proposal, the use of a fully cost reflective demand charge from 1 January 2018 for customers who opt-in and also our new proposal for alpine region customers.
- Customer impacts – a key area of focus for all stakeholders was the potential impact (benefits) for customers who opt-in, estimating take up and the resultant impacts for remaining customers. This analysis and feedback has been critical in shaping our thoughts and tariff proposals.
- Transition arrangements – related to distinguishing the approach for medium business customers to whom opt-in does not apply.

[10] As previously discussed we have removed the key messages and detail of our consultation for our original TSS submission. That feedback is still highly relevant and has been used in shaping and influencing our revised submission. For simplicity however this section only discusses the consultation and key messages for any consultation undertaken subsequent to the submission of our original TSS.

- Customer engagement process to assist implementation – we sought feedback on approaches to engaging with consumers to assist in the success of the reform.
- The table below provides a summary of the key messages and examples of how we have incorporated those messages into our approach and proposed tariff structure.

Table 3.2: Messages from stakeholder engagement and AusNet Services' response

Area	Key messages	Examples of what we have done
Changes to respond to opt-in	• There was general consensus with our approach for making minimal changes. • There was still a strong desire for consistency and simplicity in tariff design, language and terminology between distributors. • Most stakeholders appreciated the benefits and rationale for using a fully cost reflective demand charge from January 2018[11] for customers who opt-in. • Stakeholders understood the need to use a specific approach for customers in the alpine region and retailers were generally comfortable that their processes and systems could handle this approach.	• We have kept any changes to a minimum including retaining our time of use energy tariff and off peak / dedicated circuit tariffs where relevant. • We have retained the previously agreed common new residential tariff structure across distributors including a common definition of peak demand which applies only business days. • The demand charge for customers who opt-in will be fully cost reflective from 1 January 2018. This will provide a stronger signal and maximise the potential benefit available for those customers who opt-in. • To maximise cost reflectivity and address potential perverse outcomes we have proposed to retain the current tariff structures for alpine region customers. This was preferred to developing a winter peaking demand charge based tariff.
Customer impacts	• There was general acknowledgement that the opt-in requirement addresses prior concerns expressed over adverse impacts for vulnerable customers and potential bill volatility. • Most appreciated that the introduction of the opt-in requirement will provide opportunities for some customers to benefit from changing tariff structures.	• We have undertaken and shared analysis to understand the impacts (benefits) for customers who opt-in to the new tariff structures. • We have developed a simple, pragmatic and transparent approach to estimating take up that provides a reasonable basis for calculating our indicative tariffs. Our estimate of take up will be refined over time as we gather new information in particular actual

[11] Stakeholders also understood the need for AusNet Services to implement a demand charge one year later than other distributors and did not see this as a material issue.

Area	Key messages	Examples of what we have done
	• All stakeholders acknowledged the difficulty in estimating take up of the new tariff structures with any degree of precision, although it was broadly considered that this would be low. There was also acknowledgement that take up is heavily influenced by the marketing activities and product development strategies of retailers. • Some stakeholders provided views on approaches to estimating take up of the new tariff structures but did not provide any specific estimates or assumptions. • Stakeholders understood that there are potential impacts for customers who do not opt-in to the new tariff structures.	level of take up post 2017. • Given the uncertainty in estimating take up the TSS illustrates the impact on the tariffs and costs for customers who do not opt-in for simple scenarios where we vary the levels of opt-in related take up. Recognising the trade-offs involved in tariff design and to achieve an appropriate balance we have adjusted the weightings in our tariff components. e.g. the level of peak season demand charge vs. off-peak season demand charge. • For medium business customers we have retained key features of customers' current tariff structures and added a phased-in demand component. The demand component for 2017 is set at '0'. The proposals have regard to potential customer impacts whilst facilitating customer understanding of the new pricing arrangements.
Transition Issues	• Recognised that the opt-in decision removed the need for transition for residential and small business customers. • Appreciated that for medium business there was still a need for a transition.	• We have removed the 5 year transition for residential and small business customers. • To smooth the impacts for medium business, we are proposing a straight line transition over 5 years with a zero demand charge in 2017. • For simplicity and effective implementation we are proposing all medium business tariffs will incorporate a demand component. • There will also be the option for medium business customers to opt-in to the demand structure available to residential and small customers, with the full demand component

Area	Key messages	Examples of what we have done
Customer engagement	• General view that customer engagement will be important for successful implementation and that it requires broad stakeholder participation. • There was understanding that the process would need to differ for customers consuming more than 40MWh per annum which has a mandatory approach. • Educating and communicating concepts of new tariff structures to customers will be challenging but not impossible. • Industry collaboration with Government is key to successful customer communication and education.	• We will continue to work with industry and government in a collaborative approach to education and customer communication. Our focus groups from our original TSS consultations provided some useful empirical data and insights that can help shape future education campaigns.

3.8 Proposed tariff classes and tariff reassignment procedures

The following table outlines AusNet Services' proposed tariff classes. These are the same tariff classes as currently applying. The threshold for opt-in implementation of new cost-reflective tariff structures, i.e. <40MWh per year consumption, sits within the residential and small I&C classes, and is not cause for splitting of tariff classes.

Table 3.3: AusNet Services' proposed tariff classes

Tariff Classes	Typical Customer	Tariffs*
Residential	Small LV Residential Customers, 230V & 415V	NEE11, NGT11, NSP11, NEN11, NEE20, NSP20, NGT20, NEN20, NEE23, NSP23, NEE24, NEE30, NSP30, NEE31, NSP31, NEE32, NSP32.
Small I & C	Small LV Industrial & commercial customers using up to ~~70~~ 40MWh a year, 230V & 415V	NEE12, NSP12, NEN12, NEE21, NSP21, NSP27, NEN21, NEE25
Medium I & C	Medium LV Industrial & Commercial customers using between ~~70~~ 160MWh and 400MWh a year, 415V	NEE40, NEE51, NEE55, NSP55, NSP56, NEE60, NEE52
Large I & C	Large LV Industrial & Commercial customers using over 400MWh a year, 415V	NSP75, NSP76, NSP77, NSP78

Tariff Classes	Typical Customer	Tariffs*
High Voltage	Large HV Industrial & Commercial customers 6.6kV, 11kV & 22kV	NSP81, NSP82, NSP83
Sub Transmission	Large Extra HV Industrial & Commercial customers 66kV, & Supplies to Latrobe Valley Open Cuts and Works areas.	NSP91, NEE93, NSP94, NSP95

** Additional tariffs in schedules are created by combining Dedicated Circuit tariffs with other tariffs where customers have two element metering installed.*

Source: AusNet Services

Consistent with Rule 6.18.4, which outlines the principles governing assignment or re-assignment of retail customers to tariff classes, and AusNet Services' recent EDPR proposal, the proposed principles governing assignment or re-assignment of retail customers to tariff classes are that for:

- **Existing residential and small I&C class customers:** Each customer who continues to be a customer of AusNet Services as at 1 January 2017, will be taken to be "assigned" to the tariff class that AusNet Services was charging that customer immediately prior to 1 January 2017, except where AusNet Services can reasonably show that the 'extent of a customer's usage is likely to be greater than 160 MWh per annum;
- **New customers:** In developing any new tariffs – whether to apply to new customers, or whether to apply to existing customers – AusNet Services will comply with the requirements of Clause 6.18.4 of the Rules, along with the rebalancing constraint outlined in the Rules and its overall Revenue Cap, as determined in accordance with the AER's 2016-20 revenue determination for AusNet Services. AusNet Services proposes to utilise the annual Pricing Proposal to illustrate its compliance to the AER with all relevant Rules pertaining to the development of new distribution tariffs;
- **Assessment and review process:** AusNet Services proposes to notify a customer's retailer in writing (including via email) of the tariff class to which the customer has been assigned or reassigned, prior to the assignment or reassignment occurring. The notice will include advice that the customer may request further information from AusNet Services, or that they may object to the proposed assignment or reassignment. If the customer objects to the proposed assignment or reassignment and that objection is not resolved to the satisfaction of the customer, the customer has access to dispute resolution arrangements. If, as part of any dispute resolution process, AusNet Services receives a request for further information from a customer, AusNet Services will provide such information. AusNet Services will not provide the customer with any information that it deems to be of a confidential nature, unless required to under any relevant Law, Code or Regulation. AusNet Services will adjust any tariff assignment or reassignment in accordance with any decision made by a valid dispute resolution mechanism (e.g.: EWOV).

3.9 Alternative Control Services tariffs

Alternative control services include our ancillary network services, public lighting, and metering services. These services can be attributed to a particular customer (rather than shared across our entire customer base).

The basis for deriving these tariffs has been outlined in detail in AusNet Services' most recent Regulatory Proposal for the 2016–2020 regulatory control period. These indicative tariffs are reproduced in Section 3 of Attachment 1. The AER will make a final determination on these charges by 31 May 2016 (the determination will only specify the revenue cap for metering services).

3.10 Approach to setting annual tariffs

Rule 6.18.1A(a)(5) requires that the TSS include:

> a description of the approach that the *Distribution Network Service Provider* will take in setting each tariff in each *pricing proposal* of the *Distribution Network Service Provider* during the relevant *regulatory control period* in accordance with clause 6.18.5.

AusNet Services may make adjustments to the tariff schedule for each of the last 4 years of our 5 year regulatory period, subject to consulting with customers and stakeholders and obtaining the AER's approval.

In each of these four years, a revised version of our TSS will be submitted only if a revision to tariff structures is proposed. In each of the four years, AusNet Services will submit a document—The Annual Pricing Proposal—to the AER for assessment and approval. The annual pricing proposal will explain:

- How tariffs levels will vary from 1 January in the following year;
- Any material differences between the pricing proposal and the information on tariffs and tariff structures in this TSS, including material differences between the annual pricing proposal and the previous indicative price schedule.

More detail on the annual process for updating the tariff schedule following the first year of the 2016 regulatory period, and on making changes outside of these annual adjustments is outlined below.

3.10.1 Annual changes to the Tariff Schedule

AusNet Services updates tariffs and charges each year in accordance with the current AER determination on tariffs and charges. This enables a response to changing market conditions and the recovery of costs in a way that continues to be consistent with long-term pricing goals.

In addition to preparing a TSS, where this may be necessary, we will inform customers and stakeholders via:

- email notification to retailers and industry participants;
- the AusNet Services' website, and
- consult with customers and stakeholders on any proposed changes to tariffs structures we have flagged in retailer forums, and potentially focus groups with residential and business customers. This consultation would occur around November in any year.

The process for annual changes to our network tariffs taking effect from 1 January each year is contained within chapter 6 of the Rules. We have summarised these steps in the table below.

Table 3.4: AusNet Services annual pricing proposal and approval process

Timing	Process
November-February	AusNet Services consults on any proposed revisions to the TSS if these are required
End of March	AusNet Services submits revised TSS to AER (if required) and publishes it on its website
July 20 (approximately)	June CPI becomes available
End of August	AER decision on revised TSS
August-September	AusNet Services prepares the annual pricing proposal and revised indicative network use of system (**NUOS**)

Timing	Process
	prices
End of September	AusNet Services submits its annual pricing proposal to the AER for approval
Mid November (6 weeks after submission of annual pricing proposal to the AER)	AER decision on annual pricing proposal
1 January	New tariffs and any new tariff structures to take effect.

The annual pricing proposal will contain a description of all the elements that makes up the change including:

- The inflation figures
- The X factor approved in the AER's final determination
- All annual adjustments where actual costs have been different to those allowed by the AER
- All proposed pass through amounts which have a significant positive or negative impact on our costs
- A comparison of the indicative NUOS pricing schedule and the outturn tariffs in the annual pricing proposal
- and an explanation of all material differences
- An updated indicative NUOS pricing schedule
- Any relevant outcomes from our customer engagement.

3.10.2 How a New Tariff Schedule Takes Effect

This Section 6 has outlined that a new tariff schedule will take effect annually on 1 January each year. This section outlines how tariff schedule updates make their way into customer bills.

The bill that a customer receives comes from their electricity retailer. Our network charges are paid by the customer's chosen retailer.

Retailers are responsible to design the actual tariff structures that customers pay and these may vary depending on the offer a customer has agreed with their retailer.

Following the AER's approval of our network tariffs in November of each year, retailers need time to incorporate our network tariffs, estimates of their costs and their competitive strategy, into their retail price offers.

The retail market in Victoria has been deregulated, which means there are a number of different retailers who compete for customers and the government is satisfied that this competitive pressure does not require them to apply close scrutiny to retail prices.

Once retailers have set their prices, customers are able to use comparison tools to help compare the price of different energy offers and to make an informed decision about which offer best suits their needs. Customers can shop around for a retailer who offers a deal that best suits their needs. A customer who wants to actively manage their usage to save from our new tariff structures should seek a retail deal that will pass these savings on to them.

There are a number of comparator websites including commercial switching sites or the Victorian government provided comparison site www.switchon.vic.gov.au

The AER also has the Energy Made Easy website www.energymadeeasy.gov.au.

4 Impact of proposed tariff changes for retail customers

4.1 Objective of this section

This section sets out the expected customer impact of AusNet Services' proposed changes to its tariffs structures. For simplicity our analysis is necessarily developed on the assumption that a retailer fully 'passes through' the network price change. In practice this decision is up to each individual retailer.

This section includes an analysis of:

- Potential benefits available to residential and small business consumers from opting in to the new tariff structures. This is based on indicative changes in the forecast 2018 customer bills between fully cost reflective tariffs and non-cost reflective tariffs. Our results are based on analysing the impacts on a sample of 100,000 residential and approximately 12,000 small business customers.
- Indicative impacts for medium business customers from the mandatory change in tariff structures. This is based on indicative changes in the forecast 2018 customer bill (using a 20% weighting of the demand charge) compared with a 2018 bill under the previously applying tariff structure. Our results are based on analysing the impacts on a sample of approximately 1,500 medium business customers.
- A basic approach to estimate take up of cost reflective tariffs by residential customers.
- The bill impact for residential and small business customers who do not opt-in based on simple scenarios with varying levels of take up (or opt-in) of cost reflective tariffs.
- The potential for (further) customer savings for those customers who opt-in to cost reflective tariffs through behavioural responses such as changing their energy consumption or usage patterns.

4.2 Customer impacts – assuming no behavioural response from customers

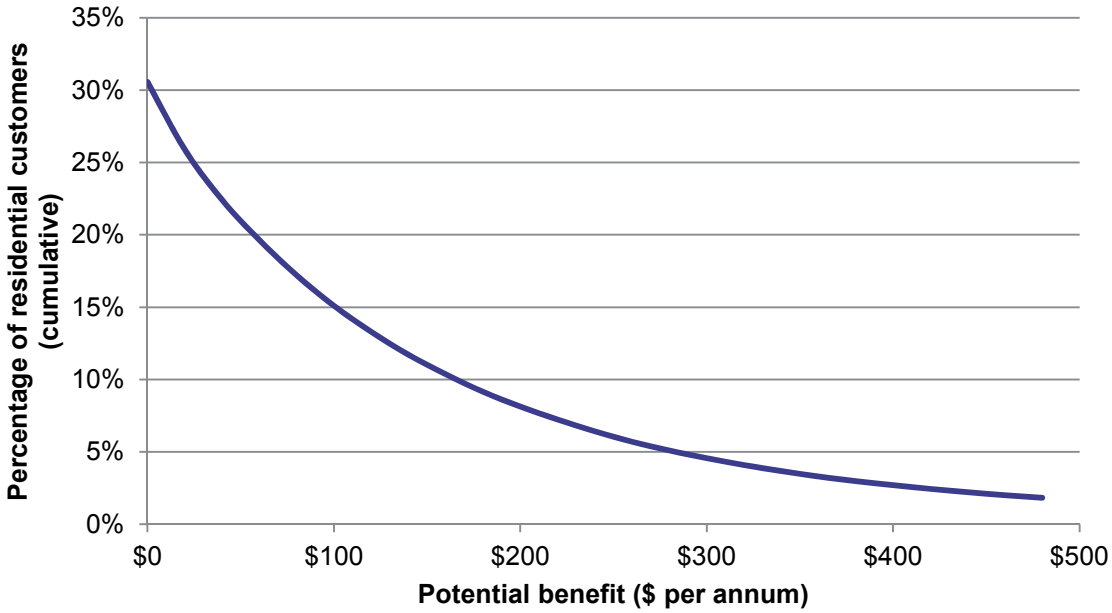
The analysis presented in this section assumes no change in customer behaviour such as changes in energy consumption, load shifting or investing in new energy technologies such as solar PV or battery storage.

Indicative residential customer impacts

The figure below shows the distribution the potential benefit in 2018 for residential customers that choose to opt-in to cost reflective tariffs. It is built on the premise that only customers who are expected to benefit from opting in will do so and therefore the chart only shows positive impacts, i.e. benefits.

As previously mentioned it is based on analysis of a representative sample of 100,000 residential customers and compares the difference in network bill by customer between the indicative cost reflective tariff in 2018 and the previously applying 2018 tariff.

Figure 4.1: Distribution of potential benefit for residential customers opting in to cost reflective tariffs



Our analysis highlights that approximately 31% of residential customers are expected to benefit from opting in to cost reflective tariffs (this is equivalent to the area under the curve above) and the average level of benefit is approximately $160 per annum. Approximately 8% of residential customers could be expected to save in excess of $200 per annum from opting in with some potentially benefitting by $500 per annum.

The analysis above shows impacts on an annual basis, on an individual bill basis the introduction of a demand charge can potentially increase summer network bills and lower winter bills. The impact has been mitigated in the tariff design through the inclusion of a low level, off-season demand charge, which reduces the bill volatility across the year. Retaining a demand component year round also facilitates on-going customer recognition of demand as the key driver of network costs.

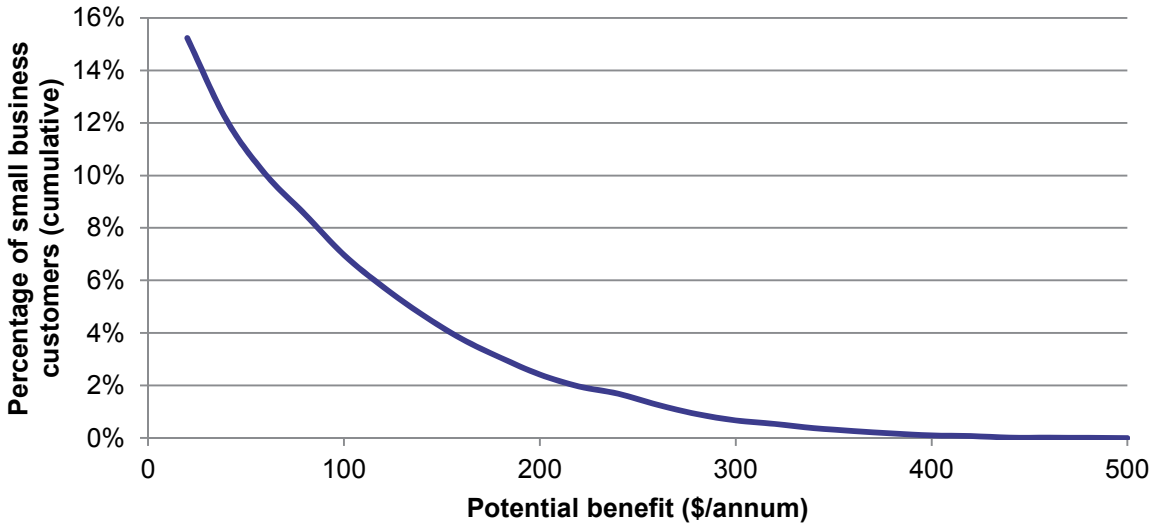
Indicative small business customer impacts

A smaller percentage of small business customers, approximately 15%, are expected to benefit from opting in to cost reflective tariffs. Analysis of a representative sample of approximately 12,000 small business customers has been undertaken, comparing the difference in network bill by customer between the indicative cost reflective tariff in 2018 and the previously applying 2018 tariff.

The average level of benefit is approximately $95 per annum. Approximately 7% of small business customers could be expected to save in excess of $100 per annum from opting in.

The distribution of potential benefits is shown in Figure 4.2 below.

Figure 4.2: Distribution of potential benefit for small business customers opting in to cost reflective tariffs



Indicative medium business customer impacts

Customers consuming more than 40MWh per year, will be re-assigned to a tariff structure that adds a maximum demand component to the existing tariff structure they are assigned to. There are approximately 9,100 customers in this category.

Customers in this category typically have a high utilisation factor. Because of this, the majority of customers are not negatively impacted by the introduction of the maximum demand component. Analysis of a representative sample of approximately 1,500 customers, comparing the difference in network bill by customer between the indicative cost reflective tariff in 2018 and the previously applying 2018 tariff, indicates that bills will be lower for more than 80% of medium business.

4.3 Estimating take up of residential customers opting in to tariff reform

To understand the impacts of tariff reform on residential and small business customers who do not opt-in requires an estimate of potential take up of cost reflective tariffs.

There is clearly difficulty in estimating take up of the new tariff structures with any degree of precision. We believe however that take up is likely to be low. Stakeholders we consulted with shared this view and other evidence such as the level of take up of time of use tariffs and a report by the CSIRO on the likely response by Australian consumers to cost reflective electricity pricing[12] also confirm this view:

1 The take up of time of use tariffs by residential customers since commencement in 2014 to date has been less than 1%[13].

2 The CSIRO report (page 8) states “our calculations suggest that the initial voluntary uptake of cost-reflective pricing is unlikely to exceed 5-10% of households”.

Stakeholders and the CSIRO research also acknowledge that take up is heavily influenced by the marketing activities and product development strategies of retailers. The introduction of unfamiliar concepts, such as the maximum demand component, would likely also impact optional uptake.

[12] Stenner, K., Frederiks, E., Hobman, E. V., and Meikle, S. (2015) Australian Consumers’ Likely Response to Cost-Reflective Electricity Pricing. CSIRO, Australia.

[13] The price signals in these flexible tariffs are diminished as the tariff does not include a peak season weighting. Some retailers have argued that rebalancing of tariffs by distributors made the benefits for customers uncertain coupled with limited promotion by retailers has led to limited take up reversion to traditional tariffs by customers.

In our discussions with stakeholders some have provided views on approaches to estimating take up of the new tariff structures but not specific estimates or assumptions that could be applied. There was however general acknowledgement that a simple approach to estimating take up was appropriate.

Our proposed approach to estimating take up is based on an assumption that take up is likely to be higher for those customers who benefit more.

The CSIRO research, discussions with stakeholders and our focus group discussions with customers as part of our original TSS submission provides some insights into estimating these take up percentages. One retailer noted that they are able to attract some customer interest to change tariffs at a $50 annual benefit. Views obtained through our focus groups highlighted that a $200+ benefit would be an optimistic estimate of the minimum threshold for customer interest if the reward was to be driven by change of behaviour.

Recognising this, our approach is outlined in Table 4.1. It uses the data in Table 4.1 and applies a simple take up percentage for each level of potential benefit.

Table 4.1: Estimated take up of cost reflective tariffs by residential customers.

Potential benefit ($ per annum)	Percentage of residential customers who benefit	Indicative take up percentage		Comment / Rationale
$0 - $50	10%.	0.5%	3	Given the minimal level of benefit available the take up for this group is expected to be very low.
$50 - $100	6%	2.5%	4	This is based on simple interpolation between the lowest and highest take up percentages.
$100 - $200	7%	6%	5	This is based on simple interpolation between the lowest and highest take up percentages.
More than $200	8%	20%	6	This group is likely to have the highest take up given the level of potential savings.
Total (weighted average)	31%	~2.2%	7	The overall level of take up is based on a weighted average of the take up estimates at each level of potential benefit.

Our expected level of take up for year one is estimated at 2.2%, but given the uncertainty is could be in the range of 2% – 2.5%. This is not an unreasonable estimate when compared to the CSIRO research and also the take up of time of use tariffs.

Take up in subsequent years can be arguably lower as the 'low hanging fruit' is taken up in the first year. We therefore believe that take up in the first regulatory period till 2020 could be in the range of 6% - 8%.

At this stage we are not in a position to estimate a specific level of take up of cost reflective tariffs by small businesses. For this TSS we will use the same take up assumption for small business and residential customers.

Noting that the tariffs included in this TSS are indicative only we will however be reviewing our take up assumptions further including estimating a specific small business take up rate and a more refined residential take up rate as we prepare our tariffs for the annual pricing submission later in 2016.

4.4 Indicative customer impacts for customers not opting in to cost reflective tariffs

Customers who opt-in are expected to benefit financially through lower tariffs, the result is a shortfall in network revenue that is recovered from customers who have not opted in.

Given the uncertainty in estimating take up of cost reflective tariffs we illustrate the impact for customers who do not opt-in using simple scenarios where we vary the levels of opt-in related take up.

Our analysis indicates that, by 2020, close to 100% of customers (excluding some outliers) will have a lower network charge overall than they have today.

The figures below show the potential impact on residential customers for four levels of take up. The lowest level, 2% broadly aligns with our estimate of take up, at this level the impacts on customers who do not opt-in is approximately $10 per annum. We similarly estimate the impact on customers for simple multiples of this level of take up, at 4%, 8% and 16%. A 16% take up is equivalent to approximately 50% of customers who can benefit from tariff reform opting in, noting that our analysis in section 4.1 highlighted that approximately 31% of customers can benefit from opting in. At this level of take up, which is considered to be highly unlikely to be achieved, the impact on customers who do not opt in is just under $50 per annum.

Figure 4.3: Indicative impact on non opt-in residential customers by level of take up of residential cost reflective tariffs

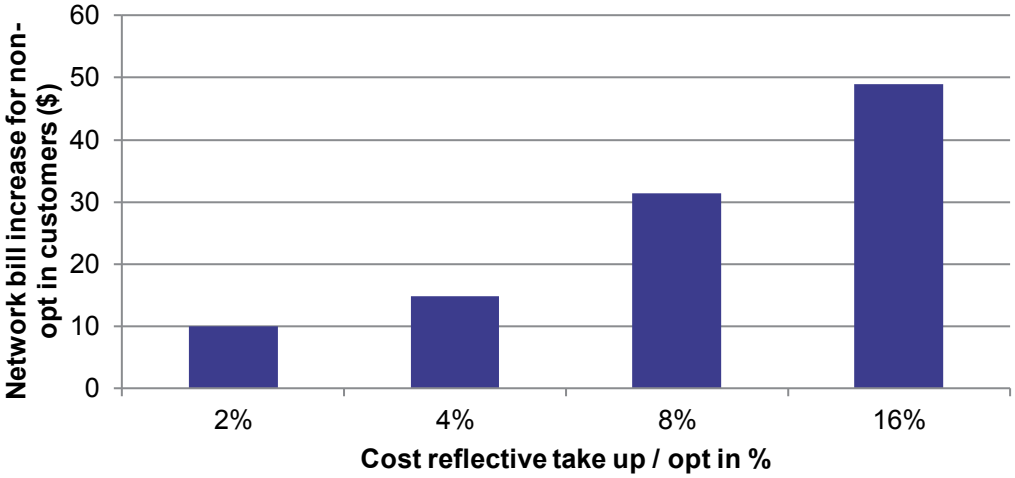
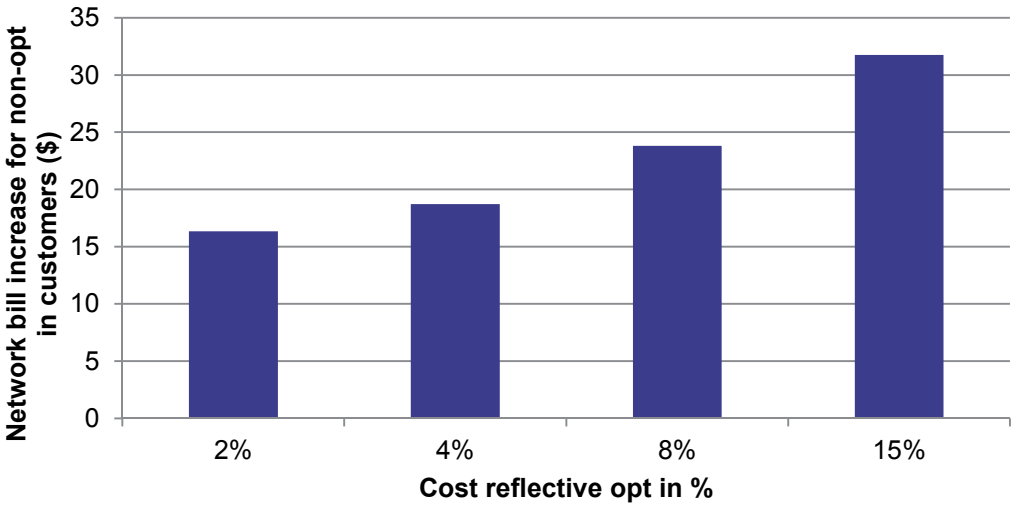


Figure 4.4: Indicative impact on non opt-in small business customers by level of take up of the cost reflective tariff



The potential impacts shown in the table account only for the level of uptake of cost reflective tariffs. There are a number of factors that ease pressure on prices in this regulatory control period compared to the previous period, ending 2015. These include reductions in metering charges and jurisdictional scheme amounts for the transitional feed-in tariffs. Our analysis indicates that, by 2020, close to 100% of residential and small business customers (excluding some outliers) will have a lower network charge overall than in 2015.

4.5 Indicative residential opt-in customer impacts – potential benefits of behavioural change

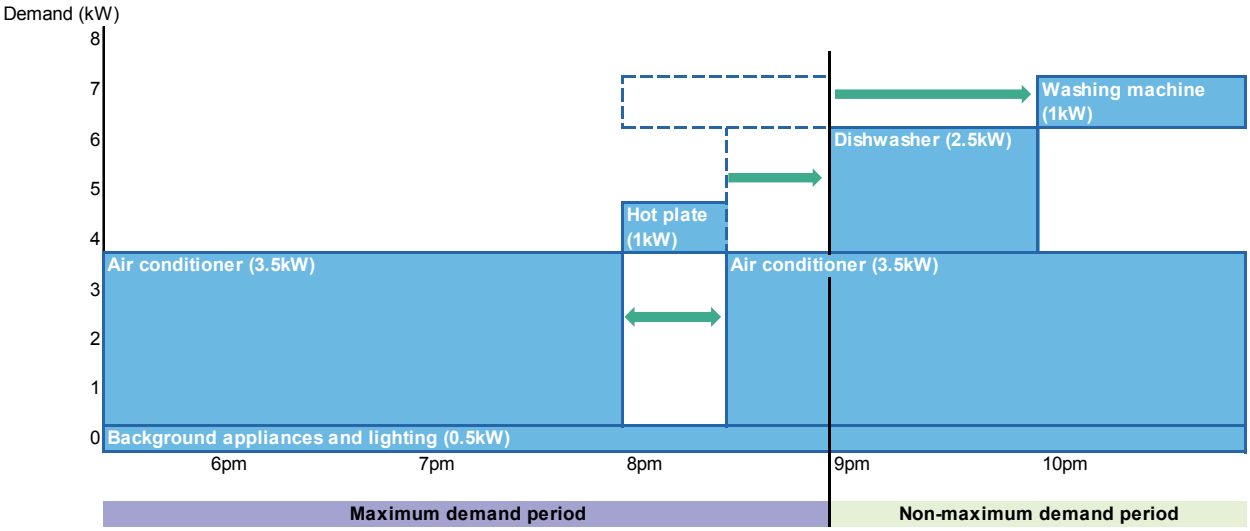
This section considers how behaviour for those residential customer's that have opted in can affect their networks bills under the proposed tariff structures and the potential further benefits (cost reductions) available through reducing their maximum demand for the summer period.

It is important to note that, even with opting in to cost reflective tariffs, customers can still reduce their energy bills by focusing on energy efficiency and that a move to cost reflective pricing does not remove this incentive. Rather, it provides an additional avenue for customers to save.

For customers to benefit through reducing their maximum demand they must have visibility (potentially in near real time) of their maximum demand. This means that customers must be aware of the impact that using multiple appliances at any one time may have on their demand.

The figure below depicts the impact of 'appliance stacking' for a hypothetical customer.

Figure 4.5: Example of potential customer response



The potential benefit obtained by a customer is determined by the level of reduction in maximum demand multiplied by the maximum demand charge.

In the above example, the customer's maximum demand before any behavioural change is approximately 7.5kW. By moving the washing machine and dishwasher to outside of the maximum demand period, and switching off the air-conditioner whilst cooking, this customer could cut their maximum demand by ~3.5kW. Using the 2018 indicative summer demand charge this (permanent) change in behaviour would result in a ~$125/year saving. Shifting only the dishwasher and washing machine, and letting the air-conditioner run during cooking time, would save a customer ~$90/year.

4.6 How proposed tariffs were shaped by considerations of customer impacts

The pricing principles set out in the Rules require that DNSPs consider the impacts on retail customers of changes in tariffs. As described above, customer impacts were a key focus of AusNet Services when developing cost reflective tariffs, in particular we considered:

1. the change to the total network charge;
2. what influenced the magnitude of the change to the network charge;
3. how network charges are recovered across a year;
4. how customers could influence the level of impact;
5. the mitigation on impact to residential and small business resulting from the government's opt-in policy for cost reflective tariff assignment.

AusNet Services' deliberations of the above issues shaped the development of its cost reflective tariffs in a number of ways. These included:

1. AusNet Services' proposed transition period or medium business customers, which reduces the year-on-year impact of adopting cost reflective tariffs;
2. The introduction of an off-season maximum demand charge, which reduces the retail bill volatility within a year;
3. Isolating the maximum demand window to workdays only, which reduces the risk of weekend gatherings of family and/or friends triggering higher maximum demand charges; and
4. The retention of off-peak and dedicated circuit energy rates, so that these customers would not face increased energy rates only to see the rates fall again over time.

There is also a need for ongoing communication with and education for customers with regards to maximum demand, what it is and how they might respond to the new price signals, particularly for

effective uptake of cost reflective tariffs. We have heard from a range of stakeholders during our consultation on changes required by the government's opt-in policy that broad stakeholder collaboration, with Government participation, is key to successful customer communication and education to achieve success.

AusNet Services believes that the tariffs and transition plan proposed in this TSS have struck the right balance between the pricing principles outlined in the Rules. Specifically, this proposal has adequately balanced cost reflectivity, customer impacts and customer understanding of network tariffs.

Appendix A – Key Tariff Concepts

There are a number of important concepts and terms which describe AusNet Services' system of charging customers for their on-going connection to and use of the network. The following table summarises the meaning of these key concepts and terms.

Table A.1: Description of key tariff concepts and terms

Term	Description
Tariff component	A parameter that is used as the basis for charging a customer. The most common parameters are energy consumption (kWh), demand (kVA or kW) and standing charges (¢ per day/per annum).
Tariff	A tariff is a group of tariff components that are combined together to determine a customer's network bill. For example, a standing charge plus a consumption charge plus a demand charge.
Tariff class	A tariff class is simply a way of grouping the tariffs that apply to similar types of customers under one broad umbrella. For example residential or small industrial and commercial.
Distribution Use of System (DUoS) tariffs	DUoS tariffs are the group of tariff components that are combined together to create a distribution network tariff, which is in turn used to determine the distribution network share of the customer's bill.
Transmission Use of System (TUoS) tariffs	TUoS tariffs are the group of tariff components that are combined together to create a transmission network tariff, which is in turn used to determine the transmission network share of the customer's bill.
Network Use of System (NUoS) tariffs	NUoS tariffs are the combination of DUoS and TUoS tariffs (and any other costs that a network business is able or required to recover via its network tariffs[14]).
Demand	Demand (kW or kVA) is a measure of the amount of energy that a customer consumes from the network over a half hourly period.
System peak demand	System peak demand is the highest amount of energy that is consumed from the network over a 5 minute interval. The amount of network capacity that needs to be built, and therefore, the cost of the network, is determined by the peak demand.
Kilowatt Hour	Kilowatt hour (kWh) is a measure of the amount of energy that is consumed over any particular period. It the amount of energy that is required to meet a one kW demand for an hour.
Standing charge	A fixed fee that is charged to a customer to retain their connection to the electricity network. This is generally levied on a daily, monthly or annual basis.

Source: AusNet Services

[14] Jurisdictional Schemes are an example of additional costs that are eligible to be recovered from via NUoS tariffs.

Appendix B – Compliance of TSS with Pricing Principles

B.1 Objective of section

The objective of this section is to discuss the key[15] requirements that the Rules place on AusNet Services regarding the development of its future network tariffs. The Rules requirements as set out in the Pricing Principles can be summarised as:

- Tariffs must be based on the LRMC,
- The revenue that is generated from a customer or group of customers must be between the stand alone and avoidable cost,
- Tariffs must be designed to recover residuals in a way that minimises distortions to the price signals for efficient use,
- Having regard to the impact on customers of changes in tariffs from the previous year, new cost reflective tariffs can be transitioned to cost-reflective levels over time, and
- Tariff structures must be reasonably capable of being understood by customers, having regard to consultation undertaken with customers in development of the TSS.

These are discussed in the sections below.

B.2 Long run marginal cost

Rule 6.18.5 (f) requires that:

> *"each tariff must be based on the long run marginal cost of providing the service".*

Long run marginal cost is a measure of the incremental (marginal) costs that need to be incurred when there is an incremental (marginal) increase in use of the electricity distribution network, or conversely the costs that would be avoided for a marginal decrease in use of the network[16].

In order to develop tariff structures and indicative tariffs based on LRMC, three questions need to be answered:

- What 'service attributes' should an electricity distribution network seek to price?
- What cost information should be included in the LRMC calculation?
- What methodology should be used to calculate the LRMC?

What service attributes should be priced?

The issue of what 'service attributes' should be priced is sometimes raised in the context of electricity network pricing. For example, should a network business price demand, or throughput?

A first order condition underpinning the development of the LRMC is that it:

- reflects the specific cost drivers faced by an individual network business, and
- these should be the cost drivers that **can be affected by the future behaviour of end customers**.

[15] AusNet Services acknowledges that there are a number of other important aspects of the Rules that is must comply with in relation to the development of its tariffs for Direct Control Services. For example, Rule 6.18.5 (a) contains a the Network Pricing Objective, which is that tariffs '*should reflect the Distribution Network Service Provider's efficient costs of providing those services to the retail customer*'. Whilst AusNet Services has given explicit regard to this, and all of the other components of the Rules affecting the development of tariffs for Direct Control Services, the focus in this section is to discuss the key aspects of the Rules that affect the *structure* and *level* of network tariff components.

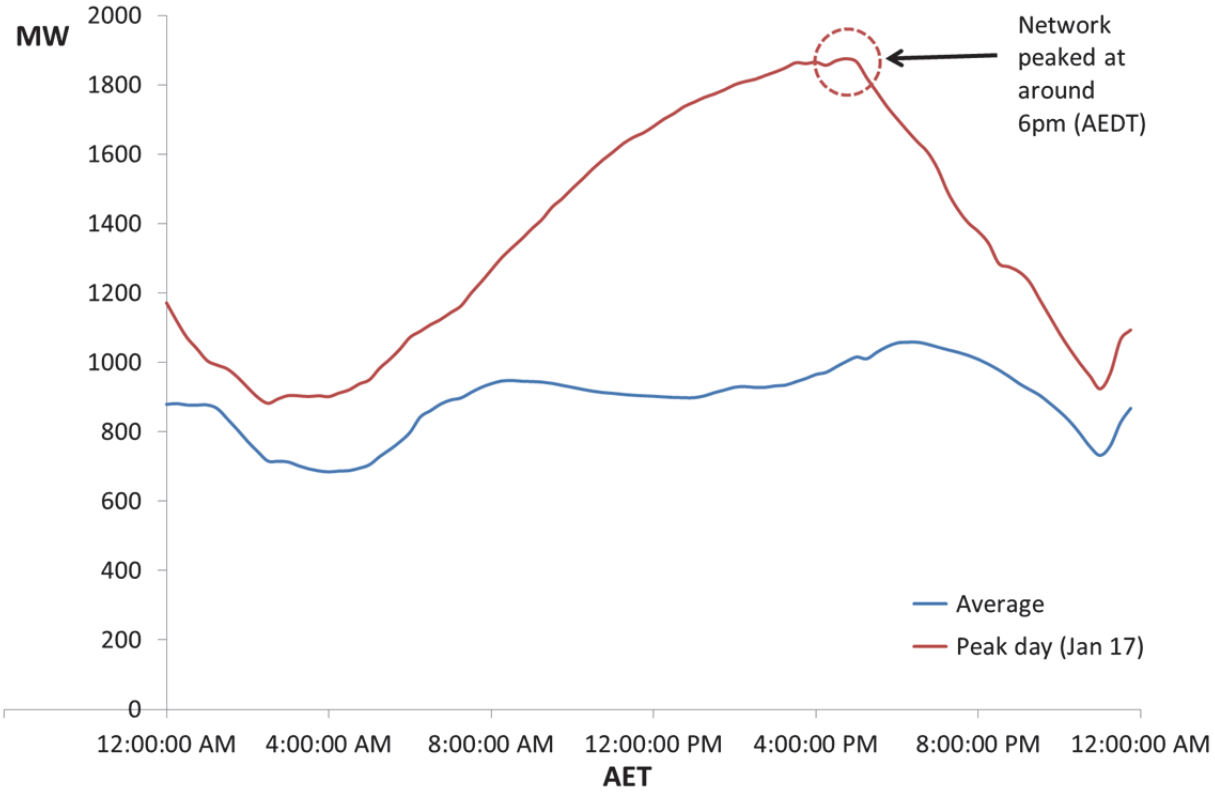
[16] The 'long-run' aspect of LRMC relates to the fact that over shorter time frames some costs cannot be adjusted (e.g. because contracts are in place or assets are already installed), whereas over a longer timeframe all costs are variable.

In AusNet Services' case, the key cost driver that can be affected by its customers' future consumption behaviour is peak demand (this is discussed in further detail in the next section).

The following diagram illustrates the demand that is placed on AusNet Services' network on average, relative to the demand that is placed on AusNet Services' network on a peak demand day.

It is the system peak demand, and more specifically, how this is forecast to change in the future, which determines the size and types of assets that AusNet Services need to install in the future.

Figure B.1: Network Demand – Average vs Peak day, 2014



AusNet Services' network normally peaks in summer, from mid-afternoon into evening. The system peak demand is predominately driven by residential customer air-conditioner load, which contributes the most when they return home from work on very hot days. The very high loadings can be maintained between the hours of 3pm and 9pm on those peak demand days.

Energy consumption occurring outside of AusNet Services' system peak demand is not a material driver of its future costs. This is discussed in more detail below.

What cost information should be included in the LRMC calculation?

Once the service attribute to be priced is established, it is important to ensure that the appropriate costs – reflecting that service attribute - are inputted into the LRMC model so as to support the derivation of a cost-reflective price for that service attribute.

AusNet Services has used the following test to determine whether or not a particular cost should be included in the LRMC model:

If a cost is included in the LRMC calculation, and customers respond to the price signal that stems from the inclusion of that cost either through changing their behaviour or through their subsequent decisions regarding what energy-using equipment to purchase, will that response actually reduce AusNet Services' future costs?

If the answer is 'no' (i.e., AusNet Services' costs do not change as a result of a customer's response), then AusNet Services has removed that cost from its LRMC calculation. This is because the inclusion of that cost would diminish economic efficiency (e.g., it would lead to a reduction in consumption, but no reduction in costs).

Having regard to the above test, AusNet Services has included the following costs in its LRMC calculation:

- **Forecast network capacity augmentation capital expenditure**: The timing and size (and therefore cost) of expenditure in this cost category can be influenced by changes in AusNet Services' customers' future demand, therefore, these costs have been included in the calculation.
- **Incremental forecast operating expenditure:** The timing and size (and therefore cost) of AusNet Services' expenditure on demand management programs and some short run operational and maintenance costs can be influenced by changes in AusNet Services' customers' future demand and / or consumption behaviour, therefore, these costs have been included in the calculation.

AusNet Services has excluded the following costs from its LRMC calculation:

- **Forecast replacement capital expenditure**: The timing and scale of AusNet Services' future replacement capital expenditure is *predominately* driven by condition and risk factors affecting individual assets (or categories of assets). It is not materially driven by the loadings (whether peak demand or energy throughput) placed on those assets, nor will the sizing (and therefore cost) materially change as a result of AusNet Services' forecast demand or energy throughput.
- **Forecast customer connection capital expenditure:** AusNet Services has concluded that, in general, signalling these costs to the broader customer base through a LRMC based variable charge is likely to diminish economic efficiency, as the timing and scale of AusNet Services future customer connection related capital expenditure is predominately driven by the location and particular connection characteristics of the connecting customer. Therefore, even if AusNet Services' broader customer base were to change their consumption behaviour in response to a price signal that reflected these costs, the specific costs associated with connecting an individual customer (or an individual development) are unlikely to change materially.
- **Forecast corporate, safety related and IT capital expenditure costs:** The timing and scale of these costs will not be affected by AusNet Services' customers changing their future demand or energy consumption behaviour, therefore, these costs have not been included in the calculation.
- **Sunk costs:** As these costs have already been incurred, these costs cannot be influenced by AusNet Services' customers changing their future demand or energy consumption behaviour.
- **Non-incremental forecast operating expenditure:** This includes costs such as Finance, HR, Legal, Regulatory and general management related costs. As expenditure in these areas will not be influenced by AusNet Services' customers changing their future demand or energy consumption behaviour, these costs have not been included in the calculation..

What methodology should be used to calculate the LRMC?

There are two methodologies that are generally used by network businesses to calculate their LRMC of supply. These were explored by the AEMC during it's review for the Distribution Network Pricing Arrangements Rule Change, which led to the establishment of the requirement for network prices to be based on the LRMC of proving the service. The first is the Average Incremental Cost (AIC) approach, which is underpinned by a business' forecast of its future costs (numerator) that will change as a result of its forecast change in demand (denominator), with both the numerator and denominator discounted back to create a Net Present Value (NPV).

The second is the Perturbation approach, which in practical terms, seeks to ascertain how a business' expected future costs would change (in NPV terms) if there was an incremental increase (or decrease) in the future levels of demand for its services. This approach is generally considered to be more suited to wholesale supply systems where augmentation of the system requires lumpy capital investments.

Consistent with the requirements of the Rules, particularly Rule 6.18.5 (f), AusNet Services has considered the costs and benefits of both methodologies, and has concluded that the AIC approach is the most appropriate methodology to use given its circumstances. In particular, the AIC:

- Ensures that if AusNet Services' underlying demand and cost forecasts eventuate, the NPV of revenue that AusNet Services' generates over the evaluation period from the implementation of a cost-reflective price based on the calculated LRMC will exactly equal the NPV of the costs that it incurs – that is, growth is 'self-funding'. This means that not only can it be said with some certainty that, subject to timing differences, this tariff is cost reflective given the underlying forecast parameters, it also ensures that there is no cross-subsidisation between those customers causing the growth to occur, and those that are not causing that growth to occur,
- It is commonly used for distribution networks, as it is generally considered to be well suited to situations where there is a fairly consistent profile of investment over time to service growth in demand, and
- It relies on forecasts that have been provided as part of AusNet Services' recent regulatory submission, and therefore the costs of calculating, implementing and applying the AIC is less than other alternatives, in particular the Perturbation approach (which, amongst other things, would require AusNet Services to develop a new demand forecast and to quantify the impact that that new demand forecast would have on its forecast capital expenditure program).

The AIC approach to determining the LRMC utilises the following formula:

$$LRMC = \frac{\sum NPV(Forecast\ Capex + Forecast\ Opex)}{\sum NPV\ (Forecast\ Growth\ in\ outputs)}$$

The key cost inputs were described in the previous section of the TSS. AusNet Services has adopted a 10-year evaluation period, which is consistent with the period typically used to undertake these types of analyses[17].

The following table summarises the key results of AusNet Services' LRMC analysis[18].

Table B.1: Results of AusNet Services' LRMC analysis

Voltage Level	LRMC ($/kVA)
Low Voltage	$88.70
High Voltage	$24.58
Sub transmission	$16.08

Source: AusNet Services

[17] AEMC 2014, *Distribution Network Pricing Arrangements, Rule Determination, 27 November 2014*, Sydney, page 122

[18] LRMC is calculated for different voltage levels because different customers classes use different amounts of the network. For example, a customer that connects to the high voltage network should not pay for growth on the low voltage network. For completeness, it is noted that AusNet Services derived LRMCs for a number of different locations within its network, however, it has not presented this information in this TSS as it does not propose to adopt tariffs that differ by location.

B.3 Between the stand alone and avoidable cost of supply for a tariff class

Rule 6.18.5 (e) requires:

> *'that for each tariff class, the revenue expected to be recovered must lie on or between:*
>
> *(1) an upper bound representing the stand alone cost of serving the retail customers who belong to that class; and*
>
> *(2) a lower bound representing the avoidable cost of not serving those retail customers'*

The rationale for this test is to ensure that inefficient connection and disconnection decisions are not made by users, or prospective users of AusNet Services' distribution network.

Therefore, for a tariff to be deemed to be efficient under the Rules, it must deliver a stream of revenue from a customer, or as a proxy, a class of customers, that is between this upper and lower bound. This is commonly known as the 'efficient pricing band'. There are two reasons why a price within this 'band' is deemed to be efficient:

- Greater than the avoidable cost: If the revenue expected to be recovered from a customer / customer class does not exceed the cost that the business would avoid if they did not provide them with electricity services, that customer is (a) being subsidised by AusNet Services' remaining customer base, and (b) would be over-consuming electricity services, relative to efficient levels (assuming that the customer or customer class' demand curve is not perfectly inelastic); and
- Less than the stand alone cost: Breaching this upper bound may result in that customer (or group of customers) being incentivised to inefficiently by-pass AusNet Services' existing distribution network in order to avoid paying AusNet Services' tariffs, despite the fact that the incremental cost to AusNet Services of providing these services to that customer (or group of customers) may be less than the alternative (by-pass) option.

AusNet Services has adopted an approach that focuses on the potential for an individual customer to by-pass its network, as opposed to the potential for an entire customer class to by-pass its network. AusNet Services considers this to be a more practical and robust application of the underlying economic principle that underpins the Rules, as it is likely to be an individual customer that makes the decision to by-pass a network, not an entire customer class.

AusNet Services has further split this analysis into two categories, reflecting the likely alternative servicing solution that would be taken up by an individual customer:

- Large Customers: AusNet Services has estimated the total network cost of connecting a customer to the existing electricity transmission network, and compared this to AusNet Services' existing distribution use of system charges; and
- Small Customers: AusNet Services' has assessed the cost per kWh of installing, operating and maintaining a stand-alone power system (that is able to provide an equivalent level of reliability to AusNet Services' distribution network), and compared this to the average retail bill that customer would avoid (inclusive of AusNet Services' proposed network use of system tariffs for that class of customer) if they by-passed the grid.

The former focuses on the fact that it is the location of a large customer to another potential alternative source of electricity that will be the predominant driver of the economic by-pass of AusNet Services' distribution network. Further, this acknowledges that the larger the customer, the less economic it is generally likely to be to utilise non-network sources of electricity due to demand outstripping the ability of these supply solutions (e.g., embedded generation).

The latter recognises that it is likely to be individual customers who seek to by-pass AusNet Services' existing distribution network to avoid having to pay their all-in retail charges. Moreover, it reflects the fact that given the consumption and demand characteristics of residential and small commercial customers, it would in most cases not be technically feasible or economically attractive to bypass the distribution network by connecting to the transmission network. Rather, bypass is more likely to be

accomplished through the use of an alternate fuel source, such as a standalone system using PV and battery and a small generator.

The results of the two stand alone cost analyses are contained in the table below. For completeness, the 'Average All-in Retail Bill' reflects the average retail bills for the two customer classes – residential and small industrial and commercial customers -- for which AusNet Services has assumed the adoption of a stand alone power system.

Table B.2: Results of stand alone and avoidable cost modelling

Tariff Class	Stand alone Cost ($/kWh)	Average All-in Retail Bill Avoided ($/kWh)	Avoided Distribution Costs	Average DUoS Bill
Residential	$0.84/kWh	$0.273/kWh	$0.021/kWh	$0.110/kWh
Small I & C	$0.60/kWh	$0.252/kWh	$0.051/kWh	$0.124/kWh
Large I & C	$1.13/kWh	Not applicable	$0.015/kWh	$0.071/kWh
High Voltage	$0.388/kWh	Not applicable	$0.003/kWh	$0.033 /kWh
Sub Transmission	$0.019/kWh	Not applicable	$0.0004/kWh	$0.005/kWh

Source: AusNet Services

B.4 Recover residuals in a way that least distorts consumption behaviour

Rule 6.18.5(g)(3) states that sub-paragraphs (1) and (2) (which relate to recovering the efficient costs of serving retail customers that are assigned to a particular tariff) should be complied with:

> *"in a way that minimises distortions to the price signals for efficient usage that would result from tariffs that comply with the pricing principle set out in paragraph (f)".*

This stems from the fact that if variable prices reflect the marginal cost of supply (i.e., LRMC), and this would not provide sufficient revenue for a business to recover its total efficient costs, then the business needs to be able to levy another charge in order to ensure that it recovers the 'residual' costs.

In particular, this acknowledges that within the electricity industry, a significant proportion of a network business' costs do not vary with the future consumption behaviour of its customers. Therefore relying only on variable charges based on the LRMC may not allow a business to recover its full costs (i.e., it may not achieve revenue adequacy levels). The challenge then becomes how network businesses recover their efficient costs in a manner that least distorts consumption decisions.

Given this, the most economically efficient means of recovering any residual cost whilst complying with this Rule specifically would be to levy a fixed charge upon customers so that:

- revenue adequacy levels are obtained, whilst
- not distorting any other price signal that may affect a customer's future consumption or demand decisions.

This is because demand for this product (being the continued connection to the network) is perfectly inelastic, as long as the levying of a fixed charge, in combination with variable charges, does not exceed a customer (or group of customers') standalone cost of supply (as per Rule 6.18.5 (e)(1)), nor fall below their avoidable cost of supply (as per Rule 6.18.5 (e)(2)). Where this Rule is observed, the loss in allocative efficiency of levying a fixed charge is zero.

B.5 Able to be transitioned to cost-reflective levels over time

Rule 6.18.5 (h) states that:

> *A Distribution Network Service Provider must consider the impact on retail customers of changes in tariffs from the previous regulatory year and may vary tariffs from those that comply with paragraphs (e) to (g) to the extent the Distribution Network Service Provider considers reasonably necessary having regard to*
>
> *(1) the desirability for tariffs to comply with the pricing principles referred to in paragraphs (f) and (g), albeit after a reasonable period of transition (which may extend over more than one regulatory control period);*
>
> *(2) the extent to which retail customers can choose the tariff to which they are assigned; and*
>
> *(3) the extent to which retail customers are able to mitigate the impact of changes in tariffs through their usage decision.*

This is an important Rule as the effect is to provide the distribution business with some flexibility as to the period over which it transitions its network tariffs to levels/structures that are consistent with the broader Rule requirements around network pricing ((Rule 6.18.5 (e) – (g)). For example, reliance may continue to be placed on energy charges to recover some residual costs, so as to '*manage the impact on retail customers of changes in tariffs*'.

B.6 Stakeholder Consultation

Rule 6.18.5 (i) states that:

> *The structure of each tariff must be reasonably capable of being understood by retail customers that are assigned to that tariff, having regard to:*
>
> *(1) the type and nature of those retail customers; and*
>
> *(2) the information provided to, and the consultation undertaken with, those retail customers*

The effect of this Rule, and the broader requirements of the National Electricity Law – in particular the National Electricity Objective - is to require the distribution business to consult with its customers as part of the development of this TSS. AusNet Services' undertook a program of consultation during development of the original TSS proposal, which was detailed in Attachment A of the original TSS Overview Paper and is now included in this document as Appendix D. We have subsequently undertaken further consultation in development of the TSS revised proposal. This further phase of consultation has focused in particular on the TSS response to the government's requirement for new network pricing arrangements to be implemented through an opt-in arrangement for residential and small business (refer Section 3.7).

B.7 Compliance with Applicable Regulatory Instruments

Rule 6.18.5 (j) states that:

> *A tariff must comply with the Rules and all applicable regulatory instruments*

At the time of submitting AusNet Services original TSS proposal there were no regulatory instruments other than the Rules, which would directly affect the structure of tariffs to be proposed in the TSS. Subsequently, on 21 December 2015, the Victorian Government announced its intention that the new distribution network pricing arrangements would be implemented through an opt-in approach. This decision has been established through amendment to the Advanced Metering Infrastructure (AMI Tariffs) Order, which amendments were gazetted on 14 April 2016.

AusNet Services proposals for implementation of cost reflective tariffs, presented in this TS revised proposal, have been revised to comply with the Victorian regulatory instrument.

B.8 A theoretically pure cost-reflective network tariff structure

As discussed in the preceding sections, the Pricing Principals and broader Rules require a number of real world issues to be considered alongside the concepts used to derive the theoretically pure cost reflective tariff described above, including:

- the administrative costs associated with transitioning tariffs,
- Customers' ability to understand these tariffs, and
- the impact of tariff changes on customers, including customers' ability to choose and respond to tariffs.

Before describing AusNet Services proposed tariff structure which takes into account these provisions it is useful to discuss the characteristics of a cost-reflective tariff structure that would not depart from theoretical purity. The following table describes a theoretically pure cost-reflective tariff structure, consistent with the requirements of Rule 6.18.5 (f), Rule 6.18.5 (e) and Rule 6.18.5(g)(3). These Rule requirements relate to:

- tariffs being based on the LRMC,
- the revenue that is generated from a customer or group of customers being between the stand alone and avoidable cost, and
- tariffs being designed to recover residuals in a way that least distorts consumption behaviour,

Table B.3: The composition of a theoretically pure cost-reflective distribution tariff

Tariff Component	Composition of a theoretically pure cost-reflective tariff structure
Demand	Part of a customer's bill would be based on the demand that they place on the network at times of system peak demand, with the rate based on the LRMC of supply for that part of the network. As implied by the above:: • The rate would reflect the LRMC in different parts of AusNet Services' distribution network (i.e., the charge would vary by location), and • The charge would only apply to a customer's demand at the **time when (that portion of the) AusNet Services network peaks**.
Energy	Part of a customer's bill would reflect the LRMC of supply of energy outside of times when the AusNet Services network is expected to peak (as the costs of augmenting the network to cater for forecast increases in system peak demand are signalled and recovered via the previously mentioned demand charge). This would mean that this charge would effectively reflect the short-run marginal operating and maintenance cost of distributing an extra kWh of energy in non-peak demand periods. For electricity distribution networks, this marginal cost is very small (in the order of <1c/kWh), which, by definition, means that a theoretically pure cost-reflective anytime energy charge should be set at a correspondingly low level.

Tariff Component	Composition of a theoretically pure cost-reflective tariff structure
Standing Charge	A standing charge would be set so as to recover all of AusNet Services' residual costs, being the difference between AusNet Services' overall revenue requirement (which reflects the AER's view of the efficient costs of providing network services) less the amount of revenue that it recovers via the levying of its cost-reflective variable charges as defined above. As long as the combination of charges (e.g., fixed plus variable) delivers a level of revenue that is below a customer's (or group of customers') stand alone cost of supply, but above their avoidable cost of supply, this recovery mechanism minimises distortions to the price signals for efficient usage (e.g., the demand and energy based charges discussed above) consistent with Rule 6.18.5(g)(3).

Source: AusNet Services

B.9 Summary of rationale for proposed tariff structure

The preceding sections have established the requirements to be taken into account in developing tariffs to satisfy the network pricing objective (clause 6.18.5(a) of the Rules). This states that "…the tariffs that a Distribution Network Service Provider charges in respect of its provision of direct control services to a retail customer should reflect the Distribution Network Service Provider's efficient costs of providing those services to the retail customer.

Table B.4 summarises the rationale applied in adopting positions in respect of the tariff components, having regard to the requirements of the Rules.

Table B.4: Rationale for proposed tariff structure

Tariff Component	AusNet Services' Tariff Transition Strategy	Rationale for adopting this position
Demand **(a) peak season** Charge based on a customer's recorded maximum demand during the hours of 3pm and 9pm on working days during each of the months December through March inclusive	Consistent with the Rules requirement for tariffs to be based on the long run marginal cost of providing the service (clause 6.18.5(f)), a demand charge will be introduced for every tariff that will be retained and which does not currently include a demand charge. The level at which this demand charge would be set would be: • Consistent across all customers within a particular tariff class, • Based on the results of AusNet Services' LRMC modelling, and • Transitioned to cost-reflective levels over time.	System peak demand is the main driver of AusNet Services' future costs that can be affected by customers' future consumption behaviour. Therefore, it is the primary focus of the proposed cost reflective pricing structure change. System peak demand has, in recent times, always occurred over the period December through March, hence why these months have been identified as 'peak' months. As described in Appendix B, Section B.2, AusNet Services' load profile is at its highest between the hours of 3pm and 9pm, hence why this timeframe has been chosen. The maximum demand window is isolated to workdays only, which reduces the risk of weekend gatherings of family and/or friends triggering higher maximum demand charges. AusNet Services' has deliberately chosen not to introduce a tariff that more accurately target's customers' demands during system peak demand periods (a Critical Peak Demand tariff). This is consistent with the feedback received from customers, and AusNet Services' objective of being consistent with other Victorian Distribution businesses. Customers within a particular tariff class have similar connection and usage characteristics, therefore, they should face a similar demand charge. Deriving the level of the demand charge based on the LRMC is consistent with Rule 6.18.5(f). Transitioning to cost-reflective levels over time (for medium business customers) is consistent with Clause 6.18.5 (h) of the Rules which requires network businesses to consider the impact on retail customers of changes in tariffs. For small business customers an opt-in implementation applies, and application of the full demand charge from the outset is proposed, and will facilitate uptake. These proposals also reflect the preferences aired by most stakeholders throughout the consultation process.

Tariff Component	AusNet Services' Tariff Transition Strategy	Rationale for adopting this position
(b) off-peak season Charge based on a customer's recorded maximum demand during the hours of 3pm and 9pm on working days during each of the months between April and November	The tariff level would be set to be: • Consistent across all customers within a particular tariff class, and • Be at lower levels than the December through March demand charge.	AusNet Services is proposing to introduce a demand tariff during the off peak periods of April through November. This will be set at a significantly lower level than its 'peak' demand charge. The primary reasons for proposing this tariff component is: • To complement AusNet Services' peak demand charge, by reinforcing to customers the concept of demand as the basis for charging, with the view to improving their understanding of AusNet Services' broader tariff structure; and • To assist in managing some of the customer impacts stemming from the move towards more cost-reflective tariffs, including the seasonal volatility of bills, which is consistent with Clause 6.18.5 (h) of the Rules which requires network business to consider the impact on retail customers of changes in tariffs. This approach was generally supported by most stakeholder advocates during consultation.
(c) Application to Alpine region customers	Customers in Alpine villages will not have access to cost reflective tariffs that provide price signals for the summer peaking network. Demand for electricity in these villages is significantly higher during winter months. These customers will remain on their current tariffs.	AusNet Services original TSS proposal did not include any form of locational differentiation. This was consistent with the views expressed by many stakeholders. We have reconsidered this question in developing the TSS revised proposal, in particular taking into account the opt-in implementation for residential and small business customers. Potentially Alpine village customers would be the first to take up the new tariffs, responding to, in the circumstances, a perverse price signal. Our approach for the current regulatory control period is to current tariff structures for these customers, as these are more cost reflective. Our discussions with stakeholders including retailers confirmed that this approach can be implemented and was also preferred (at least in the short term) to developing a winter peak demand charge tariff specifically for these customers.

Tariff Component	AusNet Services' Tariff Transition Strategy	Rationale for adopting this position
Energy charge The energy component in the standard tariff structure will be a single rate applied any time of day.	AusNet Services' will transition the energy component of all of its tariffs by decreasing this in step with the phase-in of the maximum demand charge, in the following priority order: • Aligning block rate energy tariffs, by reducing the higher block rate towards the lower block rate, and aligning peak rate energy charges with flat rate energy charges that apply to other tariffs applicable to customers within the same tariff classes, then • Reducing all anytime energy and peak energy charges over time so that they align with existing off peak and dedicated circuit tariffs, then • Reducing off-peak tariffs to long-term cost reflective levels.	Currently, peak and flat rate energy charges are used to recover future capital costs that vary as a result of customers' future consumption behaviour. The introduction of a cost-reflective demand charge that is designed to recover AusNet Services' future capital costs that are driven by forecast changes in customer demand will replace the use of energy charges for this purpose and would result in current energy charges being significantly above cost reflective levels, which means they are inconsistent with the Rules (e.g., Rule 6.18.5(f)). Peak/flat rate energy charges are (a) likely to exhibit a higher elasticity of demand (relative to other energy tariff components), and (b) be further away from cost-reflective levels (for example, relative to existing off-peak energy charges), therefore the first priority is to reduce these charges to more cost reflective levels so as to comply with Rule 6.18.5(g)(3) which requires AusNet Services to minimise distortions to the price signals for efficient usage. The proposed approach is consistent with the general feedback from stakeholder advocates, who were generally supportive of a move towards cost-reflective tariffs, which in turn underpins the move away from basing a customer's network bill on their anytime energy consumption. However, many customer representatives noted the importance of transitioning tariffs over time, and the rate at which the anytime energy tariff declines will significantly affect customer impacts, particularly the extent to which customers with low consumption might be impacted. It is for this reason that AusNet Services is not proposing to move to a theoretically pure cost-reflective anytime energy charge over the period covered by this TSS.

Tariff Component	AusNet Services' Tariff Transition Strategy	Rationale for adopting this position
Fixed Charge A fixed periodic charge expressed as an annual amount	Fixed charges would be adjusted over the long-term so as to recover more of AusNet Services' residual costs.	Fixed charges are the least distorting means of recovering costs that will not otherwise vary with customers' future demands (as long as the stand alone/avoidable cost test requirements are met). Therefore, the proposed long-term approach is consistent Rule 6.18.5(g)(3) which requires AusNet Services to minimise distortions to the price signals for efficient usage. AusNet Services' has been cognisant of feedback from stakeholders that varying the tariff components in moving towards cost-reflective tariffs must be considered having regard to the customer impacts. Increasing the fixed charge component will be a more significant contributor to customer impacts for customers with low consumption. It is for this reason AusNet Services is proposing to retain recovery of residual costs via the energy charge.

Source: AusNet Services

Appendix C – Transition details

Table D.1: AusNet Services' detailed transition strategy

Tariff	Will AusNet retain this tariff?	Number of customers	Detailed commentary on transition strategy
NEE11	Yes	477,598	Residential tariff. Current form retained.
NGT11	No	1	AusNet Services proposes to close this tariff, and transfer customers to NEE11.
NSP11	Yes	6	Residential tariff with similar structure to NSP20. Tariffs to be merged when components are equalised
NEN11	Yes	1	This tariff is used as a shadow price for the billing of embedded networks, therefore it will be retained despite the small number of customers
NASN11			New cost reflective tariff with demand components – assignment is optional.
NEE12	Yes	28,059	AusNet Services proposes to retain this tariff for small business, as they must choose to be reassigned to an alternative tariff. Current form retained. Medium business customers currently assigned to this tariff will be transferred to a new demand based cost reflective tariff (NASN 19). The full demand component will be applied to NASN19 in 2018, i.e. not phased in. All NEE12 customers will be better off under the new tariff.
NSP12	Yes	1	Similar structure to NSP21 and NSP27. Tariffs to be merged when components are equalised
NEN12	Yes	1	This tariff is used as a shadow price for the billing of embedded networks, therefore it will be retained despite the small number of customers
NASN12			New cost reflective tariff with demand components – assignment is optional.
NASN19			New cost reflective tariff with demand components – assignment is optional.
NEE20	Yes	50,200	Residential tariff. Current form retained.
NSP20	No	1	Residential tariff with similar structure to NSP11. Tariffs to be merged when components are equalised
NGT26	No	16	Residential tariff. Government TOU flexible AMI distribution tariff structure retained.

Tariff	Will AusNet retain this tariff?	Number of customers	Detailed commentary on transition strategy
NEN20	Yes	1	This tariff is used as a shadow price for the billing of embedded networks, therefore it will be retained despite the low number of customers
NEE21	Yes	30,437	AusNet Services proposes to retain this tariff for small business, as they must choose to be reassigned to an alternative tariff. Current form retained. Medium business customers currently assigned to this tariff will be transferred to a new demand based cost reflective tariff (NASN 21). Tariff levels will transition from NEE21 in following priority order: • Reduce the peak rate to align with the off-peak rate within the period covered by this TSS; then • Move the peak/off peak energy rates (which would be aligned) to cost reflective levels in future TSS periods.
NSP21	No	0	Similar structure to NSP12 and NSP27. Tariffs to be merged when components are equalised
NSP27	No	0	Similar structure to NSP12 and NSP21. Tariffs to be merged when components are equalised
NEN21	No	1	This tariff is used as a shadow price for the billing of embedded networks, therefore it will be retained despite the low number of customers
NASN21			New cost reflective tariff with demand components – assignment is optional.
NEE23	Yes	57,265	Customers will be transitioned to aligned tariff structures at the time the summer generation component is wound out
NSP23	No	1	Customers will be transitioned to aligned tariff structures at the time the summer generation component is wound out
NEE24	Yes	2,226	Generally assigned in conjunction with a base tariff. Retain due to the network benefits of diversifying load over a 12 hour period, however the off-peak time period will be adjusted to 9pm-9am so that there is no crossover between the time period over which a customer's peak demand is calculated, and this off-peak period.
NEE25	No	3	Due to the small number of customers, these customers will be transferred to NEE21 as the rates are closely aligned.
NEE30	Yes	106,379	Generally assigned in conjunction with a base tariff and is a closed tariff. Customers will transition from this tariff as they adopt the new cost reflective tariffs, however it will remain available for currently assigned customers who access the reversion provisions.
NSP30	No	1	Generally assigned in conjunction with a base tariff. Tariff will be retained.

Tariff	Will AusNet retain this tariff?	Number of customers	Detailed commentary on transition strategy
NEE31	Yes	15,920	Residential tariff, generally assigned in conjunction with a base tariff. Current form retained.Time period will move from 1-4 to 12-3pm, so as to not cross over into AusNet Services proposed peak demand period.
NSP31	No	1	Generally assigned in conjunction with a base tariff. Tariff will be retained.
NEE32	No	4,267	Customers will be transferred to NEE24 due to the relatively close alignment between the: • NEE24 peak rate and the NEE11 block 1 rate, • NEE24 off-peak rate and this NEE32 rate, and • NEE24 fixed charge and the combination of the NEE11 and this NEE32 fixed charge.
NSP32	No	1	Generally assigned in conjunction with a base tariff. Tariff will be retained.
NEE40	No	1,995	Most customers are not technically eligible to be on this tariff, therefore, they will be moved to their appropriate tariff.
NEE51	No	3,430	Most customers are not technically eligible to be on this tariff, therefore, they will be moved to their appropriate tariff.
NEE55	Yes	1	The remaining customer on this tariff is located in the snowfields, and has quite unique usage characteristics (winter peaks). AusNet Services proposes to close this tariff and assign the customer to NSP56.
NSP55	No	0	This tariff will be closed as there are no customers assigned to it.

Source: AusNet Services

Appendix D – Stakeholder Consultation for Original TSS Development

This appendix reproduces the discussion on stakeholder discussion undertaken in developing the original TSS, which was contained in the Overview Paper for the original TSS (Appendix A.4 of that document). The earlier consultation remains relevant and important to the revised proposal, particularly as our objective of amendments is focused on addressing the requirements of the Victorian government's opt-in policy decision.

Readers should note that the responses to 'what we heard' during the consultation are reproduced as well as the stakeholder views, i.e. the responses have not been modified in any way to align with proposals in the revised TSS.

AusNet Services undertook several engagement activities aimed at gauging the views of customers, their advocates and retailers, on preferred tariff design and transition arrangements. Customer and customer advocate activities continued the work that commenced as part of the EDPR, albeit with a

more defined scope. In this regard, engagement activities have been valuable in further building relationships with customer advocates, and helping embed that activity as part of business-as-usual practices.

In contrast, retailer-focussed engagement activities were a major step forward by AusNet Services to initiate collaboration with retailers to implement network tariff reform. It was clear that progressing tariff reform at an industry level is not only valuable, but necessary for effective implementation.

At the core of this consultation was the trade-off between efficiency and effectiveness, in both tariff design and the transition to new tariffs, whilst being cognisant of the need to mitigate adverse impacts on particular customer groups. In effect, this reflects the need to balance the requirement to reflect the true potential future cost of augmenting the network to meet growing peak demand, with the ability to effectively implement and communicate the new tariffs in practice, whilst also protecting the interests of disadvantaged and vulnerable customers. While AusNet Services believes that cost reflective tariffs are necessary, we recognise the many stated public policy issues that need to be satisfied, including due consideration for the protection of disadvantaged and vulnerable customers.

As the engagement program progressed, some common themes in customer and stakeholder views became evident. Following is a summary of these views and opinions, and how they have been incorporated into the TSS.

Theme 1	Consistency and simplicity in tariff design, language and terminology is essential between DNSPs

What we heard

- There was general consensus from both retailers and customer advocates that achieving consistency across Victorian DNSPs, particularly in defining and measuring peak demand, will be critical to the effective communication and implementation of new network tariffs. This includes consistency in parameters such as which months, days and hours are considered "peak" periods. It also includes consistency in the calculation of peak demand based on the highest measured half hour demand per month.
- In terms of implementation, consistency was seen as particularly important for both the operation of the retail market and application of concession schemes.
- In terms of communication, consistency was seen as fundamental to explaining the new tariffs to customers whose knowledge of tariffs in general was already low.
- Generally, retailers and customer advocates believed there was very little difference between recovering residual costs through a minimum monthly peak demand charge component, or through a fixed charge component. Further, it was the general opinion of customer advocates that end-user customers would not perceive a difference between a minimum and fixed charge component.
- Feedback from end-user customers was not explicitly sought on the topic of consistency. Its importance, however, was implicit in their comments on the topic of communication and education about tariff changes. This feedback highlighted the need for simple messaging, which in practical terms can only be achieved through consistency across DNSPs.
- Further, customers expressed a preference for the changes to be communicated through their bills, and supported by traditional broadcast communication channels, such as TV and radio. Therefore, a successful education/communication campaign involving broadcast media and reaching a state wide audience, would necessarily require consistency between DNSPs.

What we have done

- Common tariff structure – Maximum Demand, Energy, Fixed
- Common definition and calculation of maximum demand
- Introduced off-season demand charge
- No separate pricing for Alpine regions
- No separate solar tariff

Theme 2	Preference for the peak demand charge to apply on five business days only and not extend to weekends and public holidays
What we heard	• Late in the stakeholder consultation phase, many customer advocates highlighted concern about the application of the peak demand charge to weekends and public holidays. AusNet Services is unaware of whether this is a concern shared by retailers, as it had not been explicitly raised as an issue by any retailers. • This concern was expressed in a formal joint submission to AusNet Services from the Alternative Technology Association on behalf of St Vincent De Paul Society, CUAC, Victorian Council of Social Service, Consumer Action and Kildonan. These customer advocate groups indicated a preference for the peak demand charge to only apply to business days. • The reasons for this include: - Weekend and public holiday charges are inconsistent with LRMC based pricing as only a small portion of Victoria's networks peak on weekends; - It would be unfair and send perverse price signals to charge consumers with weekend-peaking homes in weekend-peaking areas, when their weekend load does not impact on the local network; - Weekend peak charges may be highly confusing and very unpopular with the public, negatively impacting effective implementation of the new tariffs. • There was no clear consensus among end-user customers as to whether the maximum demand period should be applied five or seven days, with differing attitudes largely based on perceived effect of the demand charge. Key reason for a seven day preference was to reduce the complexity of the change and make the parameters easier to remember. Those with a five day preference believed it would reduce the number of days in the month where they had to be cautious about their electricity usage.
What we have done	• Collaborated with other DNSPs to reach consensus to apply the peak demand charge to business days only, excluding weekends and public holidays.

Theme 3	Concern about implementing cost-reflective pricing through introducing a maximum demand charge
What we heard	• Some retailers expressed a view that if ToU energy tariffs were modified to become more cost reflective, it presented a genuine alternative to introducing a peak demand charge component. This view was driven by a number of factors, including the view that such an approach would minimise the impact on some specific customer groups, marketing of ToU energy tariffs was beginning to gather some momentum in the industry, and the concept of ToU energy tariffs would be easier for customers to understand than the concept of a peak demand charge. • Perceptions of fairness vary among customers and largely depend upon how narrowly or widely they see the change in context with the 'bigger picture". • Most customers felt that the current approach for determining network tariffs based on energy consumption was a more equitable and fair system, often describing it as a "user pays" system. • Other concerns over the fairness of having to respond to a maximum demand price signal include a perceived inability to adequately respond to it (e.g., in the case of renters) or circumstances where it is felt unreasonable to be made to respond to it (e.g., during extreme weather events).
What we have done	• Proposed a maximum demand charge, but proposed it apply it to business days only, reducing risk of "blowout" effect. • ToU tariffs considered less consistent with Rules than a maximum demand charge. • Using feedback to inform customer communication.

Theme 4	Concern about the potential negative impact of single, one-off events on customer bills
What we heard	• Concern was raised by both retailers and end-user customers that using a single half hour for each month during the peak season (December to March) to define peak demand, would penalise customers for a rare non-characteristic usage pattern (e.g., a celebratory party), i.e., one slip up during a month could lead to a higher bill. • Retailer concerns primarily related to the operational impact of customer queries seeking to pinpoint the activities/events reflected in their peak demand charge. • Some customers expressed the view that the potential to be negatively impacted for a whole billing cycle by an isolated event could discourage changes in customer behaviour. In many instances, the first reaction to an explanation of how the peak demand charge was determined is that customers should increase their overall energy consumption to avoid a peak in energy consumption. This reflected a general lack of understanding of how distribution network charges are calculated, and more broadly, what makes up electricity bills. • Some customers suggested that this could be mitigated by using an average of top values in a month, typically arguing that "it would be fairer", particularly for those customers who were generally responding to the peak demand price signal for all other times during the month.
What we have done	• Analysed risk to customers and impact of alternative approaches. Found bill impact was not substantively different to an averaged approach. • AusNet Services is of the view that adopting an average of top values in the month would create a further complication, reducing customer understanding and responsiveness. It would also diminish the price signal. • AusNet Services believes current approach is simpler and easier to understand. • Analysed potential impact of isolated events. There is potential to mitigate this risk to customers through the education campaign leading to the implementation of the new network tariffs. In particular, providing dollar impacts of tangible examples of increased or decreased peak demand to demonstrate that the new tariff is not as punitive as it may be perceived to be, e.g. 2.5kw air conditioner running during peak period = $5 impact in one year.

Theme 5	Concern about the adverse bill impacts on low energy consumption customer groups, disadvantaged and vulnerable groups

What we heard

- Multiple stakeholders, including retailers and customer advocates, expressed broad concern about understanding the bill impacts of tariff change on customers, i.e., proportion of short term 'winners' to 'losers' of network tariff reform.
- Concern that low consumption customers comprised a higher proportion of relative 'losers' of network tariff reform, and that this would include disadvantage or vulnerable customers.
- When net impacts were presented to end-user customers, indicating that very few customers would be worse off in absolute terms (due to non-tariff compensating factors), there was a strong sense among many customers that the introduction of a peak demand charge would increase electricity bills. This scepticism reflects the lack of trust amongst customers when it comes to electricity bills. The prevailing perception is that electricity prices keep rising and any change will lead to further price increases across the board.
- Customers often made an assumption that the vulnerable, low income and large family households would be worse off. Typically, expressed in comments such as: "*What about vulnerable people or people on low incomes? They can hardly afford their electricity bills at the moment."*

What we have done

- Identified this issue as an opportunity to collaborate with other stakeholders, such as retailers or customer advocate groups, to gain access to better cohort data. Continuing to seek stakeholder feedback.
- Modelled bill impacts for a small sample of vulnerable customers, but decided further work with better data was required.
- Undertook further detailed research on socio-economic cohorts within customer base using census and ABS data.
- We then undertook an additional round of consultation throughout October to share further research findings and incorporate feedback into tariff options that could mitigate particular distributional impacts.

Theme 6	Concern about the volatility in customer bills due to seasonal impacts
What we heard	• Some customer advocates expressed concern that there was the potential for "bill shock" during peak seasons, creating anxiety and uncertainty for customers. There was also concern that this could create potential cash flow issues for customers, particularly disadvantaged or vulnerable customers depending on concession payment schemes. • Focus groups indicated that end-user customers' attitudes towards the potential for variations in bill size (e.g., +/- $50-100) from month to month are largely based on their financial means or level of household income. Whilst concern was not widespread, those with lower incomes were most concerned about their ability to manage bill variation. Customers on moderate to higher household incomes generally felt more comfortable in absorbing changes in their bills across the year as long as the net impact of these variations do not result in them being worse off across the entire year. • End-user customer attitudes towards seasonal variations in bill size are dependent upon their understanding of the increase pressure on the network over hotter months and the necessity to increase the peak demand charge accordingly. AusNet Services observes that this response is not dissimilar to general customer understanding and acceptance of seasonal variations in gas bills.
What we have done	• Adjusted weightings between peak season demand charge and off-peak season demand charge to mitigate customer impacts and smooth volatility • Identified opportunities outside of tariff design to mitigate seasonal bill impacts, which could be explored at a later date during industry consultation on implementation, e.g., bill smoothing with retailers, re-shaping concession payment schemes to reflect changes in the timing of cash flows for end customers.

Theme 7	Customers believe they are unlikely to change their behaviour in response to the new tariffs, unless the bill impact was between $200 to $500 per annum.
What we heard	• Most end-user customers were of the view that they would not change their current behaviour unless there was a significant increase or decrease in their bills a result. • Customers generally felt that an increase or decrease of between $200 and $500 per annum would be significant enough to warrant behaviour change during peak demand periods.
What we have done	• AusNet Services has not explored increasing the maximum demand price signal in response to this feedback. This response reflects an objective to mitigate the impact on disadvantaged and vulnerable customers.

Theme 8	Preferences about speed of transition to new tariffs were directly related to views about customer impacts
What we heard	• Recognition from retailers and customer advocates that to realise benefits from implementing cost-reflective tariffs, a relatively shorter transition (e.g., within a year) would be preferable. • One view put forward by a customer advocate that garnered reasonable support, was that the transition to the new pricing structure should be quick (even immediate), and the level of the price within each component of the tariff structure could be used to manage customer impacts. In this scenario, the impact of the change should be at a level that customers can feel without presenting undue difficulty. The rationale for this approach was that a visible price signal would provide a valuable opportunity for educating customers on the change. • Similarly, end-user customers expressing a preference for a relatively shorter transition often believed it was necessary for the tariff change to be less complicated, more visible and therefore easier to respond to. • Notwithstanding the above, when considering customer impacts, many stakeholders preferred the transition to be phased-in over a longer period, but generally for a price signal to still be visible. • Where customers held concerns about adverse customer impacts, preference was for the transition to the new tariffs to be phased-in over a longer period. Advocates of this view believed that a slower transition would help to mitigate the adverse customer impacts and provide adequate time to build customer understanding and acceptance of the reforms.
What we have done	• Proposed to phase in the LRMC based demand component over a 5-year transition period.

Theme 9	Mixed views about whether customers should be able to exercise choice in adopting cost reflective tariffs
What we heard	• Most customer advocates expressed support for a mandatory approach to transitioning to new tariffs. This preference was primarily driven by the view that if customers are not required to have a cost reflective tariff, they will naturally seek to avoid it where it is not in their interests. • Whilst retailers expressed mixed views, there was a tendency towards a preference for an 'opt-in' approach. As expressed explicitly in a submission by one retailer to AusNet Services, an 'opt-in' approach will enable retailers to identify customer groups that will benefit from the new tariffs and directly market retail products to them. • End-user customer views on mandatory uptake of new tariffs were not explicitly explored. A key learning from AusNet Services' experience with the implementation of ToU tariffs appears to suggest that 'opt in' approaches do not attract meaningful customer transfer. This is also supported by international research on the topic.
What we have done	• Proposed all customers to be assigned to the new cost reflective tariffs, but awaiting further stakeholder feedback

Theme 10	Educating and communicating the concept of a peak demand charge will be challenging but not impossible
What we heard	• General consensus from retailers and customer advocates that educating and communicating customers about the new tariffs would be challenging. Such views are not surprising, given the inherently complex nature of the concepts of peak demand, the lack of trust among customers and limited understanding when it comes to electricity bills. • Some retailers suggested that the short-term effects of introducing a peak demand charge would appear counter intuitive to customers. As customers were more familiar with the concept of energy consumption and being energy efficient to reduce their bills, the short-term impacts of the tariff charge, which appeared to benefit customers with a high-energy consumption, would appear counter-intuitive. • AusNet Services' experience with a limited sample of end-user customers in focus groups confirmed that customers typically have a strong understanding of the concept of electricity consumption, but most need the concept of peak demand explained. That said, once the need for the tariff structure change was explained in detail, a small cohort of customers (between 1-3 per focus group), generally understood the concept more thoroughly than the others. This cohort was more likely to be positive about the change and feel empowered to explain it to others. Whilst these findings are not statistically significant, they indicate that end-user customers are capable of understanding and responding positively to the concept of peak demand charges.
What we have done	• Identified an opportunity to share valuable empirical data from focus group findings at a later date during industry consultation on implementation.

Theme 11	**Industry collaboration with Government on a multi-channel approach should be adopted for communicating the new tariffs to customers and educating them about the reasons for and benefits of the change**

What we heard

- Retailers and customer advocates supported industry collaboration with government to educate and communicate the network tariff changes to customers.
- End-user customers expressed a preference for a trusted, independent body, such as the 'regulator', but often couldn't identify a specific body or organisation.
- In general, customers said that any education and communication about the change should:
  - Explain the reasons for the change;
  - Provide clear and simple messages (including the concept of peak demand) in 'bite-sized' chunks over an extended period of time; and
  - Explain the customer impacts in practical terms.
- Customers generally expressed a preference for the education and communication campaign to be modular and staggered, often citing the switch from analogue to digital television as an example of successful implementation.
- Customer preferences on the preferred channel for communicating the network tariff changes included retail electricity bills, television and radio. 'Shadow billing' was a commonly suggested approach to providing information on the impact of the new tariff structures, i.e., prior to the changes coming into effect, electricity bills could show peak demand usage and the effect it would have on each bill following the introduction of the new tariff structures. This highlights the importance of industry-wide engagement on an education campaign, and in particular, the need for DNSPs to work closely with retailers on tariff reform. On-line and mobile friendly tools also have an important role in helping customers to understand how their behaviour is impacting on their bills. This indicated that effective implementation would require a diverse range of communication channels to be adopted. Broader focus group findings validated the generally accepted industry view that end-user customers have a relatively low awareness and understanding of the electricity supply chain and the make-up of their electricity bills. The focus group findings also revealed a general lack of trust among customers when it comes to electricity bills.
- AusNet Services observed that in light of the above, a successful education and communication campaign must first address the issue of mistrust and improve baseline understanding. Without this groundwork, prevailing customer attitudes and understanding will act as barriers to acceptance of cost-reflective tariffs.

What we have done

- Identified an opportunity to share valuable empirical data from focus group findings at a later date during industry consultation on implementation.

Attachment 1 – Indicative Pricing Schedule

1 Indicative tariff levels

The indicative tariffs presented in this attachment to the Tariff Structure Statement (TSS) Revised Proposal are consistent with the proposed structures set out in Section 3 of the TSS Revised Proposal, and are modelled with 2016 tariff levels as the starting point, and applying an annual CPI adjustment of 2.5%. The indicative tariff levels assume an uptake of new cost reflective tariffs by 2% in 2018 and a further 1% in the following years.

2 Factors that may cause tariff levels to vary from these indicative levels

There are number of factors that are outside of AusNet Services' control that are likely to affect the implementation of the aforementioned tariffs over the period covered by the TSS.

Amongst other things, actual tariffs may vary from these indicative tariff levels in any given year as a result of:

- The AER's forthcoming regulatory decision, which will determine the amount of revenue AusNet Services is able to collect in each year of the 2016-2020 regulatory control period to cover its efficient costs of providing standard control services,
- Unders or overs in revenue collection in any individual year (e.g. due to energy volumes or energy demand varying from forecast, and variation in uptake of new cost reflective tariffs from forecast uptake), which under the applicable price control (revenue cap) must be corrected for in subsequent years;
- Future regulatory decisions applying to transmission services,
- Unders and overs in any individual year as a result of transmission services being regulated via a Revenue Cap form of price control,
- The outcome of a number of incentive schemes (e.g. STPIS for reliability, and F-factor for bushfire safety) that apply to AusNet Services;
- Any successful cost pass through applications, and
- CPI varying from forecast.

Tables 1 – 3 below set out the structure and indicative component levels (rounded) for the main network tariffs applicable in the period 2017 – 2020, presented as Network Use of System (NUOS) tariffs. This provides an overview of the indicative tariffs provided in Table 4. The indicative tariffs are applicable for 2018, the first year that a demand charge will appear in AusNet Services prices.

Table 1: structure and indicative 2018 NUOS tariff levels for main residential tariffs

Residential				Tariff components							
Tariff	Description	Assignment	Note	Peak Demand		Energy				Fixed Fee	Customer Number
				($/kW/month)		(c/kWh)				($/year)	
				Peak	Off peak	Anytime	Peak	Shoulder	Off peak		
NEE11	Single rate	default	1			10.1 / 12.8				105	475,000
NEE20	Two rate	default	2				19.2		4.4	105	53,000
NGT26	Flexible TOU	opt-in	3				14.2	11.0	4.4	105	1,000
NASN11	TOU seasonal demand	opt-in 2018	4,5	8.97	2.25	7.6				105	

Notes:

1	Anytime Rate 1 / rate 2: Rate 1 applies for first 1020kWh per quarter, rate 2 applies for balance
2	Peak: applies 7am – 11pm AEST, Mon-Fri
3	Vic Gov flexible tariff: Peak applies 3-9pm Mon-Fri, Shoulder applies 7am-3pm & 9-10pm Mon-Fri, 7am-10pm weekends, off-peak all other times. Times are AEST except when summer time is in force in which case they are ADST
4	Tariff first available 2018
5	Maximum Demand applies 3-9pm ADST, Mon-Fri, excludes public holidays, Peak Season applies Dec-Mar, Off-peak all other months

Table 2: structure and indicative 2018 NUOS tariff levels for main small businss tariffs

Small Business				Tariff components							
Tariff	Description	Assignment	Note	Peak Demand		Energy				Fixed Fee	Customer
				($/kW/month)		(c/kWh)				($/year)	Number
				Peak	Off peak	Anytime	Peak	Shoulder	Off peak		
NEE12	Single rate	default	1			13.7 / 16.6				105	27,500
NEE21	Two rate	default	2				17.8		4.4	105	35,000
NASN12	TOU seasonal demand	opt-in 2018	4,5	8.97	2.24	13.2				105	

Notes:

1	Anytime Rate 1 / rate 2: Rate 1 applies for first 1020kWh per quarter, rate 2 applies for balance
2	Peak: applies 7am – 11pm AEST, Mon-Fri
4	Tariff first available 2018
5	Maximum Demand applies 3-9pm ADST, Mon-Fri, excludes public holidays, Peak Season applies Dec-Mar, Off-peak all other months

Table 3: structure and indicative 2018 NUOS tariff levels for main medium business tariffs

Medium Business				Tariff components							
Tariff	Description	Assignment	Note	Peak Demand		Energy				Fixed Fee	Customer
				($/kW/month)		(c/kWh)				($/year)	Number
				Peak	Off peak	Anytime	Peak	Shoulder	Off peak		
NASN12	TOU seasonal demand	opt-in 2018	4,5,8	8.97	2.24	13.2				105	
NASN19	TOU seasonal demand, single rate	Re-assign	5,6,7	1.80	0.45	15.3				105	
NASN21	TOU seasonal demand, two rate	Re-assign	5,6,7	1.80	0.45		17.2		4.4	105	

Notes:

5	Maximum Demand applies 3-9pm ADST, Mon-Fri, excludes public holidays, Peak Season applies Dec-Mar, Off-peak all other months
6	Peak Demand component phased in, 0% of full value 2017, 20% 2018, 40% 2019, 60% 2020. Rebalanced via annual energy rate reduction
7	Closed to new customers. Existing customers assigned according to alignment with their current network tariff structure assignment
8	New customers will be assigned to this tariff

The table below shows the indicative tariff rates for Network Use of System (NUOS) tariffs.

Table 4: indicative tariff rates for Network Use of System (NUOS) tariffs

Tariff	Charging Parameter	2017	2018	2019	2020
NEE11	Fixed ($)	102.40	105.06	107.65	110.34
	Energy Block 1($/kWh)	0.10201	0.10071	0.10559	0.10135
	Energy Block 2 ($/kWh)	0.12909	0.12848	0.13352	0.12973
NEN11	Fixed ($)	102.40	105.06	107.65	110.34
	Energy Block 1($/kWh)	0.07292	0.07087	0.07447	0.06920
	Energy Block 2 ($/kWh)	0.07728	0.07535	0.07906	0.07390
NASN11	Fixed ($)	102.40	105.06	107.65	110.34
	Energy - All Time ($/kWh)	0.07458	0.07591	0.07723	0.07859
	Demand peak season ($/kW/mth)	8.74	8.97	9.19	9.42
	Demand off-peak season ($/kW/mth)	2.19	2.24	2.30	2.36
NEE12	Fixed ($)	102.40	105.06	107.65	110.34
	Energy Block 1($/kWh)	0.13771	0.13732	0.14266	0.13901
	Energy Block 2 ($/kWh)	0.16521	0.16553	0.17150	0.16865
NASN12	Fixed ($)	102.40	105.06	107.65	110.34
	Energy - All Time ($/kWh)	0.12963	0.13237	0.13510	0.13791
	Demand peak season ($/kW/mth)	8.74	8.97	9.19	9.42
	Demand off-peak season ($/kW/mth)	2.19	2.24	2.30	2.36
NASN19	Fixed ($)	102.40	105.06	107.65	110.34
	Energy - All Time ($/kWh)	0.15010	0.15336	0.15662	0.15997
	Demand peak season ($/kW/mth)	1.75	1.79	1.84	1.88
	Demand off-peak season ($/kW/mth)	0.44	0.45	0.46	0.47
NEE20	Fixed ($)	102.40	105.06	107.65	110.34
	Energy - peak ($/kWh)	0.19059	0.19156	0.19871	0.19600
	Energy - off-peak ($/kWh)	0.04630	0.04441	0.04778	0.06924
NEN20	Fixed ($)	102.40	105.06	107.65	110.34
	Energy - peak ($/kWh)	0.11341	0.11240	0.11704	0.11284
	Energy - off-peak ($/kWh)	0.04630	0.04441	0.04778	0.06924
NEE21	Fixed ($)	102.40	105.06	107.65	110.34
	Energy - peak ($/kWh)	0.17779	0.17843	0.18480	0.18549
	Energy - off-peak ($/kWh)	0.04630	0.04441	0.04778	0.06924
NSP20	Fixed ($)	102.40	105.06	107.65	110.34
	Energy - summer peak ($/kWh)	0.34021	0.34502	0.35307	0.36133
	Energy - summer shoulder ($/kWh)	0.32279	0.32715	0.33476	0.34256
	Energy - winter peak ($/kWh)	0.13716	0.13676	0.13961	0.14253
	Energy - off peak ($/kWh)	0.06405	0.06262	0.06394	0.06530
NEN21	Fixed ($)	102.40	105.06	107.65	110.34
	Energy - peak ($/kWh)	0.13346	0.13296	0.13811	0.13443
	Energy - off-peak ($/kWh)	0.04630	0.04441	0.04778	0.06924
NASN21	Fixed ($)	102.40	105.06	107.65	110.34
	Energy - peak ($/kWh)	0.16821	0.17194	0.17566	0.17948

Tariff	Charging Parameter	2017	2018	2019	2020
	Energy - off peak ($/kWh)	0.04630	0.04441	0.04526	0.04615
	Demand peak season ($/kW/mth)	1.75	1.79	1.84	1.88
	Demand off-peak season ($/kW/mth)	0.44	0.45	0.46	0.47
NEE23	Fixed ($)	102.40	105.06	107.65	110.34
	Energy - peak ($/kWh)	0.19059	0.19156	0.19871	0.19600
	Energy - off-peak ($/kWh)	0.04630	0.04441	0.04778	0.06924
NEE24	Fixed ($)	102.40	105.06	107.65	110.34
	Energy - peak ($/kWh)	0.08680	0.08511	0.08906	0.08416
	Energy - off-peak ($/kWh)	0.04630	0.04441	0.04778	0.06924
NGT26	Fixed ($)	102.40	105.06	107.65	110.34
	Energy - peak ($/kWh)	0.14243	0.14217	0.14755	0.14411
	Energy - shoulder ($/kWh)	0.11151	0.11045	0.11504	0.11078
	Energy - off-peak ($/kWh)	0.04630	0.04441	0.04778	0.06924
NEE30	Fixed ($)	0.0000	0.0000	0.0000	0.0000
	Energy - off-peak ($/kWh)	0.04630	0.04441	0.04778	0.06924
NEE31	Fixed ($)	0.0000	0.0000	0.0000	0.0000
	Energy - off-peak ($/kWh)	0.04630	0.04441	0.04778	0.06924
NEE32	Fixed ($)	0.0000	0.0000	0.0000	0.0000
	Energy - off-peak ($/kWh)	0.04630	0.04441	0.04778	0.06924
NEE55	Fixed ($)	510.40	365.06	367.65	370.34
	Energy - peak ($/kWh)	0.15482	0.15835	0.16188	0.16549
	Energy - off-peak ($/kWh)	0.04331	0.04430	0.04529	0.04630
NEE52	Fixed ($)	0.00	0.00	0.00	0.00
	Energy - peak ($/kWh)	0.21012	0.21159	0.21631	0.22115
	Energy - off-peak ($/kWh)	0.08768	0.08686	0.08879	0.09077
NSP56	Fixed ($)	2792.70	2705.86	2767.00	2829.60
	Energy - peak ($/kWh)	0.12326	0.12598	0.12870	0.13149
	Energy - shoulder ($/kWh)	0.09444	0.09642	0.09840	0.10043
	Energy - off-peak ($/kWh)	0.04104	0.04197	0.04290	0.04385
	Demand capacity ($/kVa/mth)	18.44	18.91	19.38	19.87
	Demand critical peak ($/kVa/mth)	30.73	31.52	32.31	33.11
NSP75	Fixed ($)	5693.70	5681.23	5816.70	5955.60
	Energy - peak ($/kWh)	0.04617	0.04691	0.04765	0.04841
	Energy - shoulder ($/kWh)	0.03694	0.03745	0.03795	0.03847
	Energy - off-peak ($/kWh)	0.01591	0.01619	0.01648	0.01677
	Demand capacity ($/kVa/mth)	46.10	47.28	48.46	49.67
	Demand critical peak ($/kVa/mth)	73.75	75.65	77.54	79.47
NSP76	Fixed ($)	5693.70	5681.23	5816.70	5955.60
	Energy - peak ($/kWh)	0.04542	0.04614	0.04687	0.04761
	Energy - shoulder ($/kWh)	0.03580	0.03627	0.03675	0.03724
	Energy - off-peak ($/kWh)	0.01577	0.01605	0.01633	0.01662
	Demand capacity ($/kVa/mth)	49.17	50.43	51.69	52.98
	Demand critical peak ($/kVa/mth)	81.95	84.05	86.15	88.31
NSP77	Fixed ($)	5693.70	5681.23	5816.70	5955.60

Tariff	Charging Parameter	2017	2018	2019	2020
	Energy - peak ($/kWh)	0.04432	0.04501	0.04570	0.04642
	Energy - shoulder ($/kWh)	0.03509	0.03554	0.03600	0.03647
	Energy - off-peak ($/kWh)	0.01447	0.01472	0.01497	0.01522
	Demand capacity ($/kVa/mth)	51.22	52.53	53.84	55.19
	Demand critical peak ($/kVa/mth)	85.02	87.20	89.38	91.62
NSP78	Fixed ($)	5693.70	5681.23	5816.70	5955.60
	Energy - peak ($/kWh)	0.04134	0.04195	0.04257	0.04320
	Energy - shoulder ($/kWh)	0.03314	0.03354	0.03395	0.03437
	Energy - off-peak ($/kWh)	0.01313	0.01334	0.01355	0.01377
	Demand capacity ($/kVa/mth)	56.34	57.78	59.23	60.71
	Demand critical peak ($/kVa/mth)	93.22	95.61	98.00	100.45
NSP81	Fixed ($)	5693.70	5681.23	5816.70	5955.60
	Energy - peak ($/kWh)	0.02229	0.02242	0.02255	0.02268
	Energy - off-peak ($/kWh)	0.00685	0.00690	0.00695	0.00701
	Demand capacity ($/kVa/mth)	36.88	37.82	38.77	39.74
	Demand critical peak ($/kVa/mth)	60.44	61.99	63.54	65.12
NSP82	Fixed ($)	5693.70	5681.23	5816.70	5955.60
	Energy - peak ($/kWh)	0.02170	0.02181	0.02193	0.02204
	Energy - shoulder ($/kWh)	0.02170	0.02181	0.02193	0.02204
	Energy - off-peak ($/kWh)	0.00861	0.00870	0.00880	0.00890
	Demand capacity ($/kVa/mth)	33.80	34.67	35.54	36.43
	Demand critical peak ($/kVa/mth)	55.32	56.73	58.15	59.61
NSP83	Fixed ($)	5693.70	5681.23	5816.70	5955.60
	Energy - peak ($/kWh)	0.10766	0.10998	0.11229	0.11467
	Energy - shoulder ($/kWh)	0.04888	0.04969	0.05050	0.05134
	Energy - off-peak ($/kWh)	0.01466	0.01491	0.01517	0.01543
	Demand capacity ($/kVa/mth)	3.93	4.03	4.14	4.24
	Demand critical peak ($/kVa/mth)	6.51	6.68	6.85	7.02
NSP91	Fixed ($)	19461.00	19801.63	20290.00	20790.70
	Energy - peak ($/kWh)	0.02211	0.02223	0.02235	0.02248
	Energy - off-peak ($/kWh)	0.00527	0.00528	0.00529	0.00530
	Demand capacity ($/kVa/mth)	2.46	2.52	2.58	2.65
	Demand critical peak ($/kVa/mth)	4.06	4.16	4.26	4.37
NEE93	Fixed ($)	408.00	260.00	260.00	260.00
	Energy - peak ($/kWh)	0.02065	0.02090	0.02114	0.02139
	Energy - off-peak ($/kWh)	0.02065	0.02090	0.02114	0.02139
NSP94	Fixed ($)	19461.00	19801.63	20290.00	20790.70
	Energy - peak ($/kWh)	0.02177	0.02189	0.02200	0.02212
	Energy - off-peak ($/kWh)	0.00510	0.00511	0.00511	0.00512
	Demand capacity ($/kVa/mth)	1.84	1.89	1.94	1.99
	Demand critical peak ($/kVa/mth)	3.05	3.13	3.21	3.29
NSP95	Fixed ($)	19461.00	19801.63	20290.00	20790.70
	Energy - peak ($/kWh)	0.02241	0.02255	0.02268	0.02281
	Energy - off-peak ($/kWh)	0.00546	0.00548	0.00549	0.00551

Tariff	Charging Parameter	2017	2018	2019	2020
	Demand capacity ($/kVa/mth)	3.81	3.91	4.01	4.11
	Demand critical peak ($/kVa/mth)	6.33	6.49	6.66	6.82

Further definitional information for the application of charging parameters is provided in the notes to tables 1, 2 and 3 above for the main network tariff structures, and the information for specific tariffs can be accessed via AusNet Services tariff schedule published on AusNet Services website.

3 Alternative Control Services indicative tariffs

The following tables contain AusNet Services' indicative tariffs for its Alternative Control Services for 2016. Tariffs are escalated by CPI for the remaining period covered by the TSS.

Table 3: Proposed Alternative Control Connection Services Fees

Service	Business Hours	After Hours
Routine new connections — customers<100amps		
Single Ø Overhead	$392.94	$473.85
Single Ø Underground	$204.08	$261.05
Multi Ø Overhead — Direct Connected Meter	$419.96	$506.42
Multi Ø Overhead — CT Connected Meter	$563.82	$679.91
Multi Ø Underground — Direct Connected Meter	$305.40	$378.23
Multi Ø Underground — CT Connected Meter	$440.61	$545.68
Install 95mm Overhead Service from LVABC	$647.57	$811.22
Other fee based connection services		
Temporary supply connection and with co-incident disconnection	$330.62	$419.91
Remote re-energisation and de-energisation	Provided in Chapter 17	Provided in Chapter 17
Pre-approval of PV & small generator installation - <4.6kW	$0	Not applicable
Pre-approval of PV & small generator installation – >4.6kW to 15kW	$145.01	Not applicable
Pre-approval of PV & small generator installation – >15kW to 30KW	$192.24	Not applicable

Service	Business Hours	After Hours
Meter exchange upon solar connection	Applicable Exit Fee plus Service Truck Visit in the year the service is requested	Applicable Exit Fee plus Service Truck Visit in the year the service is requested
Meter reconfiguration upon solar connection	$27.75	Not applicable

Source: AusNet Services

Table 4: Proposed Ancillary Services (Fee Based)

Service	Business Hours	After Hours
Field officer visits	$18.21	$327.65
Service truck visits	$330.65	419.91
Wasted Truck Visit	$188.14	$272.00
Meter equipment test – Single Phase	$155.69	Not applicable
Meter equipment test – Single Phase Each Additional Meter at same site	$58.00	Not applicable
Meter equipment test – Multi Phase	$184.70	Not applicable
Meter equipment test – Multi Phase Each Additional Meter at same site	$87.00	Not applicable

Source: AusNet Services

Table 5: Quoted Alternative Control Services Charge-out Rates for 2016

Labour category	Service description	$/hour rate – BH	$/hour rate – AH
Labour—wages	Construction Overhead Install	$101.49	$123.27
Labour—wages	Construction Underground Install	$99.13	$120.39
Labour—wages	Construction Substation Install	$99.13	$120.39
Labour—wages	Electrical Tester Including Vehicle & Equipment	$177.23	$199.81
Labour—wages	Planner Including Vehicle	$136.25	Not applicable
Labour—wages	Supervisor Including Vehicle	$136.25	Not applicable
Labour—design	Design	$16.33	$141.28
Labour—design	Drafting	$89.39	$108.57
Labour—design	Survey	$105.30	$127.89

Labour category	Service description	$/hour rate – BH	$/hour rate – AH
Labour—design	Tech Officer	$105.30	$127.89
Labour—design	Line Inspector	$101.49	$123.27
Labour—design	Contract Supervision	$105.30	$127.89
Labour—design	Protection Engineer	$116.33	$141.28
Labour—design	Maintenance Planner	$105.30	$127.89

Source: AusNet Services

Table C.6: Operation, Maintenance Fee Based

Central					
Light Type	**2016**	**2017**	**2018**	**2019**	**2020**
Mercury Vapour 80W	$37.51	$40.31	$43.10	$45.86	$48.58
HP Sodium 150W	$93.75	$98.31	$102.89	$107.48	$112.03
HP Sodium 250W	$94.67	$99.28	$103.91	$108.54	$113.14
Mercury Vapour 50W	$57.40	$61.67	$65.94	$70.17	$74.33
Mercury Vapour 125W	$55.15	$59.25	$63.35	$67.41	$71.41
Mercury Vapour 250W	$99.40	$104.24	$109.11	$113.97	$118.79
Mercury Vapour 400W	$103.19	$108.21	$113.26	$118.31	$123.32
HP Sodium 100W	$100.31	$105.19	$110.10	$115.00	$119.88
HP Sodium 400W	$134.43	$140.97	$147.55	$154.12	$160.65
T5 2X14W	$35.02	$35.09	$35.64	$36.47	$37.48
T5 2X24W	$41.42	$41.39	$41.94	$42.82	$43.91
Compact Fluorescent 32W	$31.08	$31.06	$31.47	$32.13	$32.95
Compact Fluorescent 42W	$31.08	$31.06	$31.47	$32.13	$32.95
LED 18W	$18.02	$18.01	$18.25	$18.63	$19.10
Metal Halide 70W	$163.75	$163.63	$165.80	$169.29	$173.60
Metal Halide 100W	$223.85	$223.68	$226.65	$231.42	$237.32
Metal Halide 150W	$254.31	$254.12	$257.49	$262.91	$269.61

Central					
Light Type	**2016**	**2017**	**2018**	**2019**	**2020**
North & East					
Mercury Vapour 80W	$42.83	$45.98	$49.15	$52.29	$55.40
HP Sodium 150W	$106.98	$112.11	$117.27	$122.45	$127.62
HP Sodium 250W	$105.74	$110.84	$115.99	$121.14	$126.28
Mercury Vapour 50W	$63.39	$68.05	$72.73	$77.39	$81.99
Mercury Vapour 125W	$63.39	$68.05	$72.73	$77.39	$81.99
Mercury Vapour 250W	$109.97	$115.27	$120.62	$125.99	$131.33
Mercury Vapour 400W	$113.15	$118.61	$124.11	$129.63	$135.13
HP Sodium 100W	$114.47	$119.95	$125.49	$131.03	$136.57
HP Sodium 400W	$150.16	$157.39	$164.69	$172.02	$179.31
T5 2X14W	$39.70	$39.98	$40.76	$41.84	$43.10
T5 2X24W	$46.88	$47.08	$47.88	$49.04	$50.42
Compact Fluorescent 32W	$35.33	$35.48	$36.08	$36.96	$38.00
Compact Fluorescent 42W	$35.33	$35.48	$36.08	$36.96	$38.00
LED 18W	$18.41	$18.49	$18.80	$19.26	$19.80
Metal Halide 70W	$162.95	$163.64	$166.42	$170.46	$175.24
Metal Halide 100W	$226.59	$227.55	$231.41	$237.03	$243.68
Metal Halide 150W	$257.43	$258.52	$262.90	$269.29	$276.85

Source: AusNet Services